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ORIGINAL ARTICLES

DEMENTIA PRAECOX, A REVIEW OF SOME OF THE LITERATURE.

A. R. T. WYLIE, M. D.

KAHLBAUM in the year 1863 first made use of the term hebephrenia to designate the mental disease which appears at puberty depending upon the developmental processes then taking place. His term paraphrenia included the mental diseases which arise both at the rise and the involution of the sexual life. In his characterization of the disease he seems to have been somewhat indefinite so that one is left in doubt as to the cases to be classified under the term.

The first accurate description of hebephrenia was made by Hecker, (1) a pupil of Kahlbaum, in 1871. He defined it as a disease which differs from other mental diseases in its clinical history and symptom-complex which appears during adolescence but sometimes later in life. It is quite rare being observed in only 14 out of 50 cases. Hebephrenia appears usually at the completion of the changes of puberty from 18 to 22 years. The clinical history is characterized by a stage of more or less developed melancholy which is followed by a stage of more or less maniacal excitement; following these is developed a peculiar dementia which is foreshadowed in the first stage. The melancholic stage is superficial lacking the intensity of true melancholy; mingled with sadness is a silly, excited mood. The maniacal stage is characterized by silly actions and the dementia stage appears to the laity as recovery, for no low degree of dementia is reached.

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The patient appears to consciously will his silly talk and actions and is sometimes supposed to be simulating, and he not infrequently comes into conflict with the criminal law. The moral abnormalities give a picture often of moral insanity. Delusion is seldom found. The patient appears not to be in earnest in his strange actions but simply giving expression to his disordered phantasy. Elements of ideas of persecution and delusions of injury remain from the melancholic stage. In writing, the patient shows well the disturbance of expression; he repeats forms and terms of speech; wanders from the subject giving his present outer expressions and strange thoughts; runs on at great length; forgets connection; changes ordinary manner of speech which becomes distorted and twisted; shows predilection for strange, uncommon words; uses jargon, local dialects and mixtures of dialects; uses obscene words; lisps and produces hard sounds; wanders away from customary expressions showing a superabundance of words; has a tendency to sentimental and quasi-poetical diction mingled with scientific sentences and analyses, giving forth a stream of hollow and twisted phrases. In chronic stage there are many attacks of intercurrent mania and melancholy showing the morbid weakness and irritability of patient. While seeming to be normal in ordinary matters he yet shows mental weakness in more complex thought operations. Low grade imbecility and amentia are not found but a medium stage of mental weakness is characteristic. Hecker thinks the disease as well marked in its course and symptoms as general paralysis.

On the nature and cause of the disease he has no hypothesis to offer; for him it is sufficient that such a clinical history and symptoms exist. The changes of puberty are not of etiological consequence but form the ground on which hebephrenia develops. So Hecker refers the symptoms back to normal processes observed at puberty. Why puberty should take the abnormal course is not shown. It is developed in those cases which have shown some earlier arrests of development which, however, may have been so small as to be scarcely noticed. Its distinction from idiocy offers no difficulty.

Schule(2) finds only two cases among 600 patients. The prognosis is bad. As etiological factors he finds the hereditary of most importance. As accompanying causes are found body diseases, as head lesions and masturbation. Change of character and bad raising also noticed. He thinks that the symptoms depend on the peculiarities of the period of puberty. He classifies hebephrenia under confusional insanity, and katatonia as hebephrenia with tension neuroses.

Sterz (3) found only 12 cases among 1000 patients (8W, 4M.) He regards hebephrenia as a symptom of psychic degeneration. Degeneracy is of the greatest importance both etilogically and symptomatically. Puberty is only an accompanying cause and is a critical time for individuals with a bad heredity. Psychoneuroses are found in all the life periods but they

have special characteristics in individuals with a bad heredity and the seriousness of the disease depends on the degree of degeneracy. First, degeneracy may be latent in childhood and the psychoneuroses of puberty first bring it to light. Second, a stronger degree of degeneracy will not be fully latent in childhood, psychoneuroses show this, and a degenerate condition will persist after the acute symptoms have subsided. Third, the degeneration may be deep-rooted. The psychoneurosis here is not a definite disease but simply this condition stirred up which remains as the basis of remission.

In the 12 cases there were 9 recoveries and 7 remissions. In 11, heredity bad in 7 cases on both sides. Somatic degeneracy apparent in 9 cases. Early life abnormal in 11 cases; weak-mindedness, 4; epileptic dementia, 2; psychoneurosis, 1; emotional excitability, 4. Hecker's symptom-complex not found neither any evidence for hebephrenic dementia. Disease characterized by its degenerate character. There are no typical processes; it is, in fact, a "symptomless symptom-complex." Symptoms are mixed up and confused but are characterized by impulsions, obsessions and convulsions.

Kraft-Ebing (3a) found hebephrenia simply a degenerate psychosis. It is rare, found 5 times in 2000 cases. Heredity bad in all. Stigmata of degeneracy found. Prognosis bad.

Tuke (4) finds puberty is often subject to psychic disturbances but not of sufficient consequence to bring the patients into an asylum. Is characterized by moral perversion and impulsiveness. It is rare.

Fink (5) considers hebephrenia a disease peculiar in its bad prognosis which progresses to apparent recovery but is followed after a longer or shorter time by remission. It is a degenerate psychosis developed upon a degenerate basis from the arrest of development. The heredity is bad in all cases. He gives twelve histories and found 16 cases among 1900 patients. The clinical symptoms bear the stamp of degeneracy while puberty, symptomatically, can be regarded as of second importance. The delusions are unaccountable and show many changes. The conduct of the patient arises from the delusions but is confused and impulsive. Degeneracy is indicated also by the periodic remissions, intermissions, the alternating exalted and depressed conditions and the sudden beginning and stopping of these phases. Puberty is the accompanying cause. The latent degeneration is called forth by the increase of psychic activity arising from the revolution of puberty, hence we get the peculiar sort of psychic disturbance, hebephrenia. For degenerate individuals hebephrenia is the most common sort of mental disease as he seeks to show by statistics. Hebephrenia arises as an idiopathic form of degeneracy but other causes, as acute somatic disease and severe mental shock, give rise to other forms. Intelligence comes to full development while the moral faculties are a tabula rasa, hence arise forms of disturbance which are difficult to differentiate from moral insanity. However, when hebephrenia progresses three

years it comes to psychic dementia and it does not have the intellectual cunning and sharp judgments of moral insanity. Hebephrenia differs from confusional insanity in the absence of sequence in the delusions, in the weakened thought and in the rapid approach of imbecility. Circular and periodic forms of insanity arise from the same degenerate basis as hebephrenia which is like them in that the dementia begins in exaltation and depression and differs in that it has a period of apparent recovery which, however, is not without defect. Hebephrenia differs from katatonia in the good prognosis of the latter, the symptoms are often alike but the spasm symptoms are of a different character. Hecker, in opposition to all later observations, finds it in 28 per cent of cases but his observations did not include the lower social classes. We find a greater per cent when we do not insist on the classical type of Hecker. For, following him, one must classify all cases as hebephrenia which show outbreak at puberty, the different forms of melancholia, mania, confusional insanity, and a rapid decline to dementia. Fink goes beyond Hecker and adds a peculiar condition of dementia to the characteristics of the disease, hence it includes a larger per cent of cases. Fink observed his cases a shorter time than Hecker.

Drosnes (6) in 1883 reviewed the literature and added two cases from the clinic of Prof. Merzejewski at St. Petersburg. He considers the peculiar form and course of the disease as due to degeneracy for he finds hereditary predisposition and degeneration in all cases. The mental disturbance appears as either psychoneurosis or degenerative disease according as the brain has developed normally or has been blasted by heredity and functions abnormally. And one must keep in mind whether the mental disturbance occurs when the brain has reached full development or is in the stage of childhood or youth. For the undeveloped condition of youth is equal to the degenerate brain as a cause for the mental disturbances of a degenerative character, for the liability to loss of the psychic balance is the same. Youth brings with it a condition which without hereditary blasting would show mental disturbances of a degenerative character. Hence Drosnes concludes that the chief role in the peculiar symptomology of the disease is played by sex and not by degeneracy.

Kahlbaum (7) in a paper on a peculiar form of moral insanity describes a case which led him to form a new symptom group. It is similar to hebephrenia since the disturbance is not so severe. It showed signs of degeneracy mostly due to hereditary blasting or alcoholism. The disease began in puberty with a change in character. The patient was suddenly given to stealing of which he could not be broken; relatives tried to get rid of him and to apprentice him to some trade, but to no use. The moral depravity was so great that the patient was not amenable to the ordinary relations and customs of life. This peculiar form of moral insanity leads him to form a new symptom group. It is similar to hebephrenia but differs in that

it has no acute stage at the beginning and that the weakness is not intellectual but moral. Hebephrenia is due to a weakness of the organ of perception. But both symptom groups show a peculiar purposeless conduct and perversity. He calls it "heboid." In a later paper (8) he reports two new cases and considers the disease curable. The patients were treated by proper disciplinary measures and the moral perversity was suppressed. The intellect was not damaged. The disease is characterized by insufficient, indifferent and irrelevant thinking; there is ability to learn well and to discuss well but there is shown also peculiar, inexact observation. However, progress in school-work is difficult. Bad heredity was clearly shown and when not observed there was brain disease in childhood. The patients showed many signs of arrested development or other nerve disturbances.

Schule (9) in 1886 described the medium and higher grades of feeble-mindedness one of the groups being named hebephrenic imbecility. It included cases in which the feeble-mindedness either followed or complicated the insanity. The children here, as a rule, showed a very marked bad heredity and after an early moral development, without apparent cause fell into mental decay and after recovery manifested a primary apathetic imbecility. In these individuals hallucinatory excited conditions followed slight somatic disturbances, as indigestion. At puberty appear periodic and cyclic excitements or periodic, irascible states and signs of moral insanity. The cycle regularly returns and leaves a feeble-minded, eccentric being or an irascible irritability. Masturbation is common. Attacks of the insanity of doubt are found. The peculiar hebephrenia, the insanity of puberty as described by Hecker and Kahlbaum, does not always arise on a feeble-minded basis. Etiologically, heredity plays the chief role, then come masturbation and head lesions and after these the extreme formalism and pendency of the bringing up. The disease processes the author considers as a disturbance in the appropriation of the mental material presented during development. The disease processes limit further development producing a particular sort of imbecility. Schule characterizes this condition as well as the acute disease according to Hecker, showing as a basis a peculiar imbecility alternating with periods of apparent recovery and periods of excitement and continued mental decline. The outcome is bad in most cases. He notes suicide in one case. He mentions hebephrenia under hereditary neuroses and primary confusional insanity. In both he finds abnormal individuals who show from childhood various abnormal symptoms and inharmonious arrest of development. He differentiates two varieties, hebephrenia and dementia praecox. The hebephrenia is described according to Hecker. Dementia praecox issues in early mental death. In predisposed individuals it is characterized by loss of interest, the patient given to professional nothings; to idling around and smoking; forgetfulness, stubbornness, to silly laughter; also to heterogeneous studies, to reading books on obstetrics, mental diseases, criminal law, politics and philosophy. They show a silly self-culture, ideas of grandeur

and persecution and given to scenes of violence. The ability declines until the patient is hardly able to act as a copyist.

Kowilewsky (10) describes hebephrenia as a degenerate psychosis, as the highest grade of neurasthenia. Its psychic peculiarities depend upon the life-epoch in which it occurs. The prognosis is bad. Results from a young and tender nervous system or irregular nutrition of it. He calls attention to its close connection with simulation.

Von Tschisch (11) in 1886 reported 14 cases among 680 patients. The disease manifests itself in the variety and abundance of the psychic life and by the striking inco-ordination and superficiality of all psychic acts. The latent germ of the disease is carried from birth or early youth and is here shown forth by change in the individual. Then develop a whole series of disparate and disconnected symptoms. The will gives no connection and control to the mental life. Sadness, joy, tears, and laughter follow quickly without cause. The psychic conditions are continually changing and attention is absent—the cardinal symptom of hebephrenia, which explains the clinical picture. It is stamped by mental weakness and by the characteristic, rapid advance to dementia. This differs from acute secondary dementia in that there is no great defect in the mental powers which the patient, however, is unable to use. There is an absence of all logic and sequence in the expressed delusions thus differing from paranoia, melancholy and mania. By proper discipline, can be made to disappear the peculiar habits and senseless delusions, the peculiar mimicry and childish tricks, but not always the twisted and impulsive speech. The so-called characteristic symptoms can be made to disappear, the patient being quiet in a hospital but giving much trouble at home. The disease differs from feeble-mindedness and idiocy by richness of mental life. The will is undeveloped and cannot regulate conduct, hence the patient is at the mercy of every motive. As to prognosis, it is possible by proper means to hold back for a long time the passage to deep dementia. He observed the rapid advance to dementia in three Jews but offers no explanation.

Mariet (12) divides the psychoses peculiar to youth into two groups: psychoses with the arrest of development and the simple psychoses of puberty. The perversion of intelligence delirium, without arrest of development when recovery does not follow, advances to dementia. Of the simple psychoses of puberty there are four groups: lypemania-stupor, katatonia, melancholia with stupor, chorea, impulsive and hysterical mania. Of lypemania-stupor he has observed eight cases. The course of the disease is as follows: A young person not fully developed in body begins to lose appetite, becomes weak and chlorotic, complains of headache, loss of sleep and different nervous difficulties. After such a prodromal period which may last a month, the mental disease suddenly appears generally on account of a small mental shock. Patient has terrifying hallucinations, sees armed men and different misshapen animals, has great anxiety, seeks protection, tries

to throw himself out of the window, is agitated, sings and speechifies. Body examination shows defective nutrition, vaso-motor disturbances, irregular temperature, quick pulse, anxious mood alternating with depression, hallucinations of all senses; he is restless and contrary. After a longer or shorter period, generally some weeks, the stupor is broken by excitement; he laughs, jumps around, talks. *Flexibilitas cerea* is noted but no tension as in *kata-tonia*. Recovery gradual after the stupor has lasted from a week to a month. Physical development is completed and the menses become regular. Prognosis, good. Mariet thinks that this disease is identical with the *kata-tonia* of the Germans. In respect to cause, puberty plays the chief role. At other times it follows causes which produce great exhaustion as childbirth, phthisis, and mental strain. Puberty is the chief cause since it is accompanied by symptoms of delayed puberty, as chlorosis; it is more common in women. As occasional causes are noted heredity, mental stress and mental shock. The disease is nearly acute dementia hence, the cause is the same but with the addition of disturbed nutrition. This is not the hebephrenia of Hecker and differs from the cases described by Sterz. It progresses to recovery without relapse. Hebephrenia is a mental disturbance, idiopathic and tending to dementia with many relapses.

For Kahlbaum, puberty played the chief role in the etiology of the disease as we see by the name which he gave it.

Most casual observation shows that there is not an insanity of adolescence but there are all imaginable varieties of it at this period. Attacks of melancholy and mania occur between the ages of 16 and 25 and are easily curable; others are cured only to relapse and in still others this period is the beginning of chronic mental disease.

With this agree Emminghaus, Guslain, Griesinger, Maudsley, and Kraft-Ebing.

Thus Kahlbaum was led to recognize a less severe form of hebephrenia in heboid or heboidophrenia.

Thus there is a well established distinction between hebephrenia and dementia praecox.

Scholz is one of the rare authors for whom heredity does not play the chief role in the etiology of the disease.

In an article on idiocy Esquirol (13) observes that, "sometimes the children are born normal and grow in body at the same time that their intelligence develops; they are very impressionable, lively, irritable, irascible, and are possessed of a brilliant imagination and a precocious, active mind. This mental activity, however, is out of proportion with their physical powers. They quickly become exhausted, their intelligence remains stationary, mental acquirement ceases, and the hopes that they have given rise to, vanish. This is acquired or accidental idiocy.

Pinel (14) held that the abuse of bleeding in the treatment of mania could produce idiocy.

Morel (15) however, taught that the dementia is not accidental but constitutional. It is a sign of degeneracy which is to be sought for in heredity. It is in the children of insane and alcoholics that the premature arrest of the mental powers is observed. It is the last term of a fatal development of which the adolescent bears the germ from birth.

This idea is adopted by Falbert, Legrand du Saulle, and by Magnan and his pupils.

Christian (16) in his study of dementia praecox finds that the disease occurs in both light and severe form, the condition of the patient in the end, to all outward appearances, differing in no way from imbecility or idiocy. He divides the course of the disease into three periods. First, the period of incubation extending from birth to the outbreak of the disease. It is characterized by no peculiarity worthy of note. There are no anomalies except those that can be explained by environment. However, the patient in infancy may have been capricious, willful, irascible, and not amenable to discipline. Some show special aptitudes for music, painting, language and mathematics. As to the intelligence of his patients, he finds that 69 per cent are medium, 22 per cent good, and 8 per cent mediocre. Early intellectual abnormalities issue in other diseases than dementia praecox.

The second period is that of the acute onset of the disease.

The third period is the terminal dementia.

In respect to the etiological factors, he finds age of importance. All of his 104 cases occurred between the ages of 15 and 25. Of these, 56 occurred before 20; 12, between 15 and 16, and 48 after 20. In regard to sex he finds the disease more common among the boys. This, he thinks, is due to the more protected condition of the girls. However, he fears that "the richer the girls are in diplomas and honors the more frequent will dementia praecox occur among them." He finds heredity in 45 cases but thinks this is below what it should be. None of his cases could be classed in Morel's group of heredity insanity. He thinks that the term degeneracy is too loose and ill-defined to be used in an exact sense. If the so-called stigmata of degeneracy are abnormalities so great as to interfere with the function of the involved organ, then it is very rare in this disease. But from a study of the abnormalities found in his patients he reaches no general conclusion concerning them. It is only an accident that a degenerate becomes subject to dementia praecox. Predisposition to the disease is not shown by any external sign. However, he thinks that the temporary condition of the parents may have some influence, for 37 of his cases had normal brothers or sisters. Eight were born during the siege and the commune. In one case a twin was normal but in the other there was some abnormality. The predisposition can be acquired from diseases and ac-

cidents of infancy, as typhoid fever, brain fever (?), traumatism and infectious diseases, but is rare. He is not doubtful but that bad training can also, have its influence as 25 per cent of his cases had been spoiled and badly raised children. Of the occasional causes he considers the so-called moral causes to be effects. The physical causes of this class act by exhaustion in fact the disease should be classed under the psychoses of exhaustion. The effect of masturbation has been greatly exaggerated. It is rarely a cause but it is a symptom which increases the exhaustion. The chief cause he finds in intellectual and physical "foundering" (surmenage). This arises when they are forced to exceed their capacity, when the "activity is not proportional to the physical powers." The physical condition must be good in order that excessive work shall not be hurtful. So dementia praecox arises when the demands are greater than can be given. The insufficiency may arise either from hereditary, acquired or accidental causes; the result is the same. Menstruation is not always disturbed since this arises from physical ill health. The same cause acts in girls as in boys, surmenage. Thus, he does not think heredity is the principal factor in the etiology of dementia praecox. Cases with a bad heredity do not become demented. But in debilitating causes we find the real cause of dementia praecox.

The condition outwardly is very similar to idiocy and imbecility, but differs in its origin and in the presence of remnants of the former intellectual powers. He thinks that the reported cases of general paralysis in youth closely resemble hebephrenia.

As to prognosis, the disease is incurable. The disease progresses rapidly to dementia and then becomes stationary.

The patients not infrequently live to an old age but are peculiarly susceptible to acute diseases, as tuberculosis. Preventive treatment is all that can be of any value; this consists in keeping up the bodily condition and guarding against physical and mental strain.

Christian, after observing 100 cases, finds that dementia praecox appears regularly at the age of puberty; that the excited stage at the outbreak is not always present; that impulsiveness is always present and that it ends in a rapidly approaching more or less complete dementia which is progressive.

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- (3) H. Sterz: Jahrbucher f. Psychiatrie 1879, S. 94.
- (3a) Kraft-Ebing: Lehrbuch Psychiatrie 1879.
- (4) Tuke: Manual of Psychological Medicine. 1879.
- (5) E. Fink: Allg. Zeitschr. f. Psych. 1881, S. 490.
- (6) M. Drosnes: In Daraszkiwitz, Die Hebephrenie.
- (7) Kahlbaum: Erlenmeyer's Centralblatt 1884, p. 470.
- (8) Kahlbaum: Zeitschr. f. Psych. 1889, S. 461.
- (9) Schule: Hand-buch dritte Aufl, 1886.
- (10) Kowilewsky: In Daraszkiwitz, Die Hebephrenie.
- (11) W. v. Tschisch: In Daraszkiwitz, Die Hebephrenie.

- 12) A. Mariet: Folie de la Puberte.
- 13) Esquirol: Maladies mentales. Paris 1838. 11. p. 105.
- 14) Pinel: Traite medico-philosophique de l'alienation mentale. 2e. ed. Paris 189. 483.
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- 16) Christian: De la Demence Precoce des Junes Gens. Ann. Med-psych. 1899



THE OPERATIVE TREATMENT OF SPASTIC DEFORMITIES IN
FEEBLE-MINDED CHILDREN.

E. G. BRACKETT, M. D., BOSTON.

THE value of the operative treatment in infantile paralysis is now beyond doubt and experience has proved the benefit from the transplantation of tendons in correcting unequal muscular balance and restoring good mechanical positions. The need of establishing the best possible mechanical position of limbs which are already weakened by muscular defects is only too evident, for they need the best possible conditions in which to do their limited work. Although the conditions in the spastic cases are different from those in the infantile, yet they present a very close analogy. In both there is the position of very marked mechanical disadvantage, which, in the infantile, is due to the actual lack of muscle power, while in the spastic it is due to the unequal action in which the strength is many times not at all impaired but is combined with a defect of co-ordination. Many of these cases fail to make progress because of the lack of an opportunity for exercise. There is sufficient evidence at hand to prove that much can be done with these cases provided exercise be had either by the individual's voluntary use of the limb or by prescribed gymnastic exercise. The value of operative treatment in some of the spastic cases has been shown to be beyond question and very safely forms a starting point from which these same procedures may be applied to cases apparently less favorable and which present less opportunity for improvement. The cases which have been shown to present the greatest amount of gain are, first, those presenting slight mental impairment, moderate control of the limbs but with whom free walking is interfered with on account of the spastic contractions which prevent the limbs from being used in their proper position. The milder type of these shows a stronger contraction of adductors, ham strings and gastrocnemius so that the child walks with the adducted thigh, bent knee and the foot in equinus. At times of rest there is comparative relaxation and the limb may be held straight, but with any attempt at use the stronger muscles overcome their antagonists and bring about the position described. The severer type is that in which there is more decidedly the defect of incoordination and great spasticity and to such an extent that the patient is not able to make a successful attempt to walk or stand. These cases are more frequently diplegic, the mental condition is usually more affected and they frequently get about on the floor either by creeping or by rolling with the thighs strongly flexed on the pelvis and adducted, the knees flexed to 90 degrees or more, and the feet in a position of marked equino varus although sometimes in valgus.

The objects of the operative procedures in these two cases are, in the first, to overcome the unequal action of the strong muscles which prevents

the natural use of the foot in walking; in the second, to overcome those contractions which prevent the limb from being brought into the proper mechanical position for weight bearing, so that an attempt to begin to train the child in the movement of the use of the limbs is possible. The object of the operative procedures in these cases is very definite and it should be clearly stated that they in no way supplant the other features of the treatment, but, on the other hand, are purely supplementary and are only to clear the field for the gymnastic treatment. They are applicable when the position of the limbs is such that gymnastic measures or physical development can not be pursued; when contraction cannot be overcome in the voluntary use; when it prevents the limb from being used in the practise of exercises in the proper position. The operative treatment is purely to remove such obstacles and thus prepare for exercise work the cases which present obstacles to the useful employment of this means.

The general plan of the application of these principles has already been proven by long experience in the milder cases of spastic conditions and in those patients who show but little mental defect. These same principles are not only equally true in the severer mental defectives but may also be regarded as being still more applicable to them. It is quite true that much less can be expected of these latter cases during the development; that greater care and more time are necessary to carry out the treatment by training; the final results must be less satisfactory than in those children with the better mental control. But, on the other hand, it is perfectly justifiable to assume that the greater mental defect demands the greater effort to secure the ultimate condition of least physical impairment, for, with the less intelligence to guide, the greater is the need for the mechanism to be in good order.

The examination of these cases for operative interference is necessarily different from that of the neurological standpoint and would leave out many factors of much importance in a general examination. The operation deals with the conditions which present mechanical interferences with an amount of voluntary use of the limbs which would otherwise be possible, or with the employment of measures of gymnastic treatment. If we remember that use of the limbs in positions of best mechanical advantage is the primary aim, there are then two factors of principal consideration, and these are: First, what are the conditions which prevent the limbs from being brought into these position of mechanical advantage? Second, how much power does the individual possess to use them when there?

To this end the following scheme seems to cover the points used in the examination:

Degree of intelligence.

Region affected:

monoplegic,

diaplegic.

Amount of comparative involvement of arms and hands.

Deformity:

due to spasm (reducible),

due to contracture of tendons and fascia (irreducible).

Atrophy:

indicative of amount of latent muscle strength.

Motion—amount of.

Spasm—degree of.

Degree of incoordination (index of control).

Character of gait.

Condition of circulation of extremities.

There are three groups into which these cases may be divided for consideration from the operative point of view and in comparison with these may be also shown those which are non-operative. The non-operative case shows the deformity of position, interferes with but does not prevent locomotion, or with physical training, and shows no contraction which cannot be overcome by persistent manipulation.

CASE I.

The operative cases are, first, the general class of spastic much as described in the first of the groups and are generally monoplegic.

These patients are able to get about without help; the gait is slow, somewhat awkward and jerky; the arm more or less affected; the thigh may or may not be held adducted; the knees are bent and the foot is held in the position of equinus and is not completely corrected in any part of the step; the leg may become straight during that part of the step in which the weight is borne directly on the foot; the spasticity at times of rest is not great, but with the attempt at voluntary motion the legs become stiff in walking and the position of the leg described is assumed; the mental defect is usually slight and there is little or no deformity of the position other than that of the foot, which cannot be overcome by passive manipulation.

CASES II AND III.

Second, that of the severer spastics, with or without irregular movement on attempted motion. Patients with this degree are more likely to be diaplegic than the former; mental conditions more impaired and voluntary attempt at motion brings out a position of much greater deformity than in the first; the spastic condition and the incoordination are much more decided; the patient walks with legs in a position of much greater deformity; the thighs are adducted and usually crossed; the knees are bent to 45 degrees or more; the feet either in marked equino varus or possibly valgus; the legs do not become straight in any part of the step; the movements are irregular and jerky and there is usually a degree of contraction which prevents the deformed condition from being entirely overcome. Frequently there is muscular irritability, reflex in character, which results in irregular

and uncontrollable movements with the attempt at walking and which very materially interferes with it.

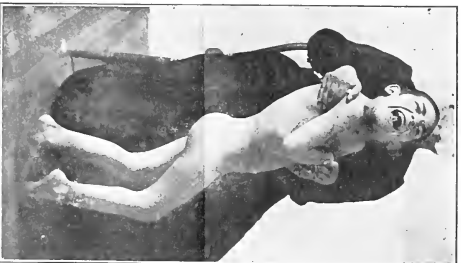
CASES IV AND V.

Third, that of the hopeless cases for locomotion. The condition of spasticity is extreme; the thighs are strongly flexed on the abdomen and adducted and crossed, the knees flexed so that the heel is almost in contact with the posterior thigh the position is more or less permanent and can be overcome only in a measure owing partly to the strong spastic condition but more to the actual contractures which have resulted from the long continued position; the mental condition is much more impaired and is usually of decidedly low grade. It is a question whether these cases would ever be able to walk even after operative correction but in many of these, however, the benefit derived from the ease of attention on the part of the attendants and the improved hygienic and sanitary conditions on account of the greater possible cleanliness, seems to warrant even strenuous measures to attain this end. The patients can be kept after correction of these deformities in the normal position and the reflex spastic condition is very markedly improved.

The operative interference is based on the theory of weakening the strongly contracted muscles which prevent the weaker antagonists from fully performing their function. It should hardly be called an actual weakening as no attempt is made to actually lessen the power of the muscle, and it is well known that mere section of a tendon does not in any way interfere with the power of the muscle to which it is attached. It is rather on the theory that by adding to its length the muscle will act in a stage of its contraction less advantageous to the strongest pull and therefore gives the weaker antagonist an opportunity of exerting its balance of power. There is another factor besides that of the increase of the strength, viz, the difference in the actual length of the two antagonistic muscles. Whenever a muscle is used for a long time in any one position a certain adaptive change in actual length occurs, a new position is made in which its balance of tonicity is best exerted. This not only acts on the stronger flexors resulting from actual shortening, but also on the weaker extensors to their actual lengthening, so that the result is applied equally to both. The operation puts a splice in the stronger so that they act in a longer arc of motion and this then tends to restore the equilibrium and lessen the irritability, for contraction acts much as a reflex tap and brings about an uncontrolled contraction. Very frequently is it seen after this operation that very less marked irritability of muscles is found.

The methods of operation are simple. Of the single tendons, as the tendo-Achilles, that of simple tenotomy; or in others less simple, as for instance those which are less accessible and where several are together and near important structures, open incision and free section of as much of the tendon as is necessary—as, for instance, the hamstrings.

In others, such as the adductors, the method is by open incision and ex-



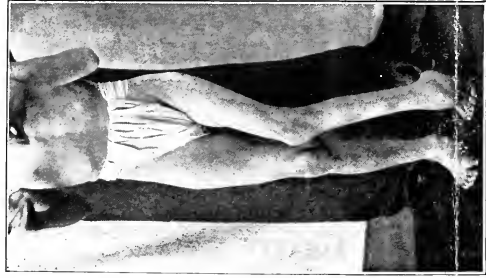
CASE III. SECOND GROUP.
Diplegic, marked contraction of adductors,
hamstrings and tendo-Achilles, very
marked irregular reflex movements.



CASE IV. THIRD GROUP.
Severe
deformity of adductors, difficult
hygienic care.



CASE V. THIRD GROUP.
Marked deformity, particularly of flexed knee.
Difficult hygienic care.



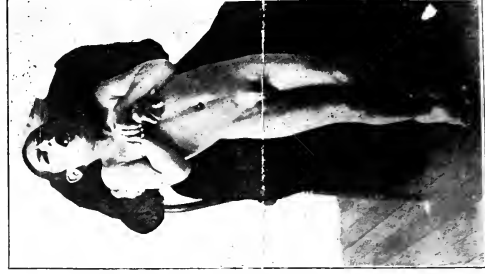
CASE I. FIRST GROUP.
Monoplegic, slight contraction of adductors
and hamstrings, marked contraction
of tendo-Achilles.



CASE II. FIRST GROUP.



CASE II. SECOND GROUP.



CASE III. FIRST GROUP.

section of a portion of the tendon or tendo-muscular portion after the method practiced by Mr. Robert Jones of Liverpool. The essential factor of the operation is that sufficient shall be done. The danger of the non-union of tendons is apparently a bugbear which should be forgotten and moreover, the fear of failure of the union of several tendons together, as for instance the hamstrings, is equally falsely grounded, for with tendons thoroughly cut and separated for a long distance, one finds later a complete union even of individual tendons. The necessity of a complete operation on the adductors cannot be too strongly emphasized, and frequently the ordinary section, even when supplemented by very marked over-correction of position with large separation, is not sufficient, for on removal of the plaster after a few weeks the muscles will be found to be still strongly acting and sufficient length not gained. The after treatment is fully as important as the operation and even more so. Over-correction of the position is necessary. With the tendo-Achilles, at least, a right-angle position, frequently rather more, is indicated although with this tendon it is sometimes necessary that too great separation shall not be made for the reason that by the position of marked calcaneus of the foot a very great separation may occur which is supplanted by the contraction of the spastic muscles apparently to a greater amount than that of the ordinary healthy muscles. With the hamstring, over-correction is not possible and therefore full extension is necessary. For that reason it may be necessary that a small portion of the muscle of the tendon should be excised.

With the adductors, the correction of a position to an angle of 45 degrees of each leg is practically all that can be obtained. These muscles are so strong in contraction and at the same time so strong in themselves that a large increase of length is necessary, and for this reason it is better in all cases, except those of very mild degree, that a portion of the muscles, at times quite a large portion, be excised with the tendon. There apparently is no danger of lack of union for the muscle is found to regain its position and often to find its tendon. The legs are best put in plaster in these positions: the plaster being carried from the toes to around the waist, making a double plaster spica with the feet at right angles, the knees extended and the thighs at wide adduction so as to make the angle between the two of at least 90 degrees. The fixation, maintained for a matter of three, or four weeks, according to the case, is then removed and the exercise treatment and massage instituted. In many of the cases it is necessary to use partial fixation for a portion of the time for a period later than this in order to maintain all of the positions.

The position of the operative procedure is very definite and should be so stated. It in no way supplants the other features of the treatment, but, on the other hand, is purely supplementary and is only to clear the field. Many times the degree of spasticity and presence of contraction render it impossible to make a beginning in the use of the limbs. The operative treat-

ment should then step in to remove such obstacles and thus prepare for the exercise work those cases which present obstacles interfering with the complete employment of this means.

The use of exercises in these cases cannot be too strongly emphasized. This feature of the treatment has been emphatically insisted upon by all writers on the subject and abroad has received more attention than in this country. Certain observers on the subject have emphasized the need so strongly as to insist upon daily training and exercise of the patients for several years after any operative procedure has been attempted. It might be more strongly put that the exercise and all measures directed toward physical development should be persisted in during the growing period of the child independently of any operative procedures which may be found advisable from time to time.

Several authors have treated at length on this question of the operative treatment of spastic conditions. Hoffa considered this question of Little's disease and the operative treatment in connection with other measures. Spitzzy has considered the question more from the treatment of spastic and spinal paralysis by nerve transplantation. Among other men, Bisch, Redard, Meniers, Bradford, Gibney and Bartow have all contributed articles on this subject. Glaessner has written rather an extensive article in *Zeit. fur Orthp. Chir.*, in which this matter of the operative treatment in these conditions is fully discussed. All give testimony to the value of this measure of the treatment in properly selected cases.



BORDERLAND CASES.

A. C. ROGERS, M. D., FARIBAULT, MINN.

AS our civilization advances effort is made to classify defective and delinquent children more carefully. We not only have our institutions for the feeble-minded, our training schools for delinquent children, and our special classes in the public schools, and our association for the study of the feeble-minded, but also now our association for the study of backward and delinquent children. In this latter group is included what I have termed for the purposes of this discussion, Borderland Cases. I have intended this term to be comprehensive enough and to include all those cases of abnormal children which do not properly classify with the typical feeble-minded, and yet I shall naturally view them from the standpoint of an institution for the feeble-minded.

It is not my purpose at this time to discuss the educational or social status of the typical feeble-minded for whom, by almost unanimous agreement upon the part of those who have given their interests the closest study, the state should provide permanent, village community homes.

Perhaps one might for the sake of convenience make the following tentative classification of the group under consideration namely: (1) backward children; (2) temperamentally abnormal children; (3) juvenile insane, and (4) moral imbeciles. In this group are the children concerning which there is the most doubt as to eligibility to a school for the feeble-minded, or advisability, and, in some cases, possibility of retention in such an institution. In this general group are the children that, from various causes, are taken home and given an opportunity to try the battle of life independently.

I use the term, *backward*, as applying to those children who are simply slow in development, but whose progress is continuous, not subject to the marked limitations that characterize the typical feeble-minded. The backward child, if his environments are reasonably favorable, is not necessarily a subject for institution training. He is the typical pupil for a special class in the public schools and he has in him the capacity for continuity of purpose and action. His horizon may not be broad, his ambitions high, nor his imagination vivid, but he is practical, industrious, persevering, and, within his sphere of activity, will make a success. The public institutions occasionally find such children in their population, however, and they make the most satisfactory pupils and either go out to care for themselves or become reliable attaches to the institution, their superior ability being readily recognized not only by the medical officers and teachers, but by their former pupil associates. This class presents no special problem to the institution though some of the individuals may

puzzle for a time their public school teachers. (Illustrative cases, 800, 461, 224, 541, 239.)

The *temperamentally abnormal* child requires very careful individual study and training. His powers of observation and reasoning and his memory for facts are as good as those of the normal child, and yet he seems to possess a distorted perspective of life and is thoroughly out of harmony with his environments. He often is not, and feels that he is not, properly understood and is usually of a sensitive disposition and lacking in self-control. Correction of faults is particularly depressing and irritating and as such children develop, unless very judiciously trained, they become constantly further out of harmony with their surroundings, and if not actually insane, at least so eccentric that they lead isolated and unsocial lives. (Case X.)

The *juvenile insane* seldom, or never, pass beyond the problematical state. They often make good workers and when employed industriously exhibit the minimum of the erratic characteristics. Industrial training with pleasant diversions without free stimulation of imagination is, in my opinion, the best training and treatment for this class. (Case 166)

The class which we are accustomed, for want of a better term, to call *moral imbecile* are, of all the borderland cases, the most difficult to successfully handle because nothing appeals to them permanently except that which satisfies their selfish desire. I will not discuss this class at length but simply add that the people who give us the greatest trouble in institution life belong to either the temperamentally abnormal, the juvenile insane or the moral imbecile classes, and very often the line of demarkation is not very well drawn. They make our chronic runaways, our mischief-makers in the institution and are always demoralizing influences when outside.

I agree thoroughly with those who, following Dr. Kerlin's suggestion, would prevent moral imbeciles from learning to read and write or obtain any form of education that will enable them to increase the amount of mischief of which they are capable. Three or four cases who have received school training and been permitted to become wise in the knowledge of the outside world are today the source of more anxiety and trouble than any other fifty cases with which I have to deal. They are not successful outside although they may work for a while when help is scarce and receive good wages, but they make bad use of their money, are improvident and vicious and when they seek the protection of the institution, after every other resource is exhausted, they are thoroughly demoralizing to the discipline of the institution and their influence is exceedingly corrupting to their associates. One hesitates to forbid them an asylum when trouble comes and yet feels compelled to do so.

I have long believed that with this class of persons there should be a special statutory provision that would permit placing them under permanent custody by an act of the court, each case to be decided upon its history and merit.

I have said that in these borderland classes are found those who for various reasons will be taken out of the institution and given a trial in the struggle of life independently, but I do not mean that all who are taken out belong to this class.

In this connection I have thought it might be of interest to check over the list of inmates that, during a stated period of time, have passed out of the Minnesota institution for feeble-minded, and see what they represent. For this purpose I have taken the last decade because it would represent conditions after a fairly complete stage of institutional development had been reached. I should also state that the Minnesota institution receives all classes of children who, by reason of mental weakness, are unable to receive instruction in the public schools, there being no age or other limitation except as stated.

From Jan. 1, 1896, to Jan. 1, 1906 I find that there have been 663 inmates dropped from our rolls.

342 of this number have died.

37, have been deported or removed to other states or countries.

15, have been transferred to other institutions because of improper classification.

1, placed in state public school.

1, in school for deaf.

1, in school for blind.

12, transferred to hospital for insane.

1, discharged as incorrigible.

2, discharged as insane and sent home.

Of the other 266, dropped,

27, died at home.

51, returned again to the institution.

3, were sent to private institutions.

94, are known to be at home.

91, are unaccounted for.

Of the fifty-one who returned to the institution, their average attendance in the institution previous to being taken home was three years and eighteen days, and the reasons given for their return were as follows:

18, too great a care at home.

20, could not be controlled (these were children whose parents expected to attain better results by private and special teaching, but failed.)

6, were in ill health when taken home and afterwards improved and then returned.

3, returned for better (medical) treatment.

2, parents or responsible friends, died.

2, returned of their own accord.

In the group of ninety-four who are still at home are represented all degrees of inaptitude (about twenty-five being practically helpless, but

the parents and friends are in a position to care for them and willing to do so.)

The number reported as not self-supporting represented an average time in the institution of three years, five months and two days.

Of those reported as self-supporting, the employments are as follows:

BOYS.

- | | |
|------------------------------------------|----------------------------------|
| 1, helper in street car barn. | 5, farm hands. |
| 1, " " livery barn. | 1, in barrel factory. |
| 1, elevator boy. | 2, in flour mill. |
| 2, in the army (1 bugler and 1 private). | 1, attendant in insane hospital. |
| 1, helper in installing gas machines. | 1, working with lumber company. |
| 1, working on range. | |

GIRLS.

- | | |
|---------------------|----------------------------|
| 3, doing housework. | 1, working in bag factory. |
| 1, nursing. | |

6 girls have married and two of them had one child each. The girl employed in the bag factory expected to be married soon.

ILLUSTRATIVE CASES.

BACKWARD CHILDREN.

F. P. (800) Fourteen years of age when admitted and remained in the institution three years; hearing defective, otherwise physically normal. In school could read and write and work simple fractions in arithmetic; could draw fairly well with pen and ink; always industrious and patient at his tasks whether in school or at prescribed industrial work; always well behaved. His first work outside was in a store where he received \$10 a month and board. Of late he has been employed to assist mechanics in putting in gas machines. Received \$6 per week. He is frugal and helps to support his parents.

C. D. (461) Fifteen years of age at time of admission. No physical deformity. Was in school six years, reads and writes well. Did good work on farm and faithful as driver of delivery wagon and as a mail carrier. Pleasant and courteous in disposition. Left the institution in 1899 and during the seven years at home he has worked for various farmers but mostly with a lumber company. He supports himself entirely. He is a member of the city band in one of the northwestern towns.

A. E. (224) Twelve years of age when admitted. Imperfect speech but no other physical defects noted. Was in the institution ten and a half years. Could read in second reader and write a fairly good letter; was superior for a backward boy in arithmetic and number work. Was always industrious and faithful at any kind of work assigned him. Has been at

home about eight years and during most of this times has supported himself and his mother. He visited the institution recently and assured me that he had \$500 at interest in the bank.

G. B. (541) Nineteen years of age at time of admission. Remained in the institution five and two-thirds years. Was too old to be assigned regular school work except training in band. Was given systematic employment in barn, chores and driving, as the discipline of consecutive occupation seemed to be the requirements in his case. He has been out of the institution about ten years, employed in pine woods, livery stables and on farms, and most of the time has received good laborer's wages. Visited the institution last December and stated that he was receiving \$30 a month. He claims to have some money laid up although it appears that he loans most of his surplus wages to his relatives who owed him at last accounts between \$200 and \$300.

T. W. (239) Eight years of age at time of admission. Rather deaf and markedly willful but perfectly amenable to control by those who understand him. Typical case of backward child who becomes a permanent attache to the institution. Passed through systematic school and industrial training. Receives \$10 a month as farm helper and teamster always faithful and reliable. He pays for his own clothing and incidental expenses and lives as independently as any employe. His team is the pride of the community.

TEMPERAMENTALLY ABNORMAL.

Female. (X) Twenty-one years of age at time of admission. Possessed good common school education; an orphan child, adopted. Foster parents indulged but had not been successful in management of child. They consider her unreasonable and ungrateful and she felt that she was too much restricted, too severely criticised and misunderstood generally. After admission she was nervous and hysterical and spent her time after first admission in writing to friends concerning her horrid treatment by her foster parents who had sent her to the institution simply to get rid of her. I found her so much more capable intellectually than I had been led to suppose from the application that I found myself at first in sympathy with her attitude toward her foster parents. Systematic employment, especially in sewing and plain and fancy needlework, which she performed nicely, encouragement where merited and quiet restraint of her impetuous feelings, soon changed her disposition and developed a healthy ambition. It seemed to me that this was a striking case of temperamental abnormality that ought to be radically improved, so my first and earnest thoughts were directed towards releasing her from the inmate relation of the institution; her foster mother having died, it seemed unfair to throw the responsibilities of the care of the home for the foster father upon her inexperienced shoulders, at least until a much longer trial had been made

of her independent capacity. She was discharged and placed among the employes of the institution in the close association of a responsible and sympathetic woman, and has so much improved in every way that she is carrying her work quite successfully. Her nervousness and tendency to hysteria occasionally manifest themselves but not nearly so much so as formerly.

JUVENILE INSANE.

M. K. (166) Seven years of age at time of admission. Had been committed to a hospital for insane. Was often excited to the point of frenzy. Would jump and tear his hair and often strike his head vigorously against the wall. Was amenable, however, during a portion of the time to regular school training and learned to read and write, to add, subtract, etc., and count money and make change for small amounts. He early developed a special pride in his writing and occasionally called attention to the fact that he could write better than the Superintendent, (which was true.) In industrial work he became quite proficient and was exceedingly helpful on the farm and in the garden, and also became an excellent milker. Occasionally, however, he would exhibit outbursts of frenzy and unreasonableness and his letters are always full of inconsistencies and extravagant statements. His imagination is exceedingly active. He has been allowed to try work outside for several summers and during one season was in Montana living with a sister and working in the mines, and while he has worked well wherever he has been for a time, he has always sought the motherly influence of the institution after each of these periodical outings.



SOME ABNORMALITIES OF PHYSICAL DEVELOPMENT ASSOCIATED WITH MENTAL DEFICIENCY AND SOME TYPES OF THE FEEBLE-MINDED.

J. MOORHEAD MURDOCH, M. D., POLK, PA.

Though it is very true that we cannot properly judge the mental status of an individual from his appearance, and though marked physical imperfections are frequently found in individuals of normal or even unusual mental attainments, it is still a fact that physical imperfections are much more frequent among the mentally deficient than among the mentally normal. Particularly is this true in regard to shape and size of the head. The average circumference of the head, for man, is 21.8 inches; for woman, 21.1 inches. In an adult whose head measures but 17 inches in circumference there is, almost without exception, stunted bodily growth and non-development of the higher cerebral faculties.

Heads with a circumference much greater than the normal are, as a rule, due to hydrocephalus in early life, though occasionally to hyperplasia of the cerebral substance. In either case, almost without exception, the individual is dwarfed and instead of the large head being accompanied by great intellectuality, the reverse is the rule.

In the comparison of various-shaped heads the cephalic index is of great interest and value. This, as you know, is obtained by dividing the greatest transverse diameter by the greatest antero-posterior diameter and multiplying by one hundred. Normal variations in the cephalic index range between 75 and 85, an abnormally long head giving a cephalic index below, and an abnormally short head a cephalic index above the normal.

The English and the Negro have, as a rule, long heads. The Germans, and in fact the majority of continental Europeans, have short, round heads. As would be expected, there is no uniformity in this respect in the inhabitants of our country.

Mongolian imbeciles have short, round heads with a cephalic index from 87 to as high as 100. A Mongolian imbecile in the institution under my charge has a cephalic index of 100. Long heads are not so frequent among the imbeciles but are not at all uncommon. One girl whose photograph was shown has a cephalic index of 64.5.

Aside from the abnormalities of shape and size of head, abnormalities of the scalp, the palate, the teeth, the ears, the nose and face; abnormalities of bodily form, the genitalia and the extremities are of much more frequent occurrence in the feeble-minded than in the mentally normal.

Owing to the plasticity of the tissues in youth the features of the imbecile, as a rule, portray his mental defect to a much greater degree than do the features of the insane, whose mental aberration is acquired later in life.

The photographs shown present the most marked physical abnormalities found in the examination of one thousand feeble-minded children. The collection of photographs also includes a number representing various types of the feeble-minded.





1. MONGOLIAN IMBECILE.



2. PROGRESSIVE PARALYSIS.
BOY TWELVE YEARS OF AGE.



3. LOW GRADE IMBECILE.
Unable to speak in monosyllables but un-
able to read and write.



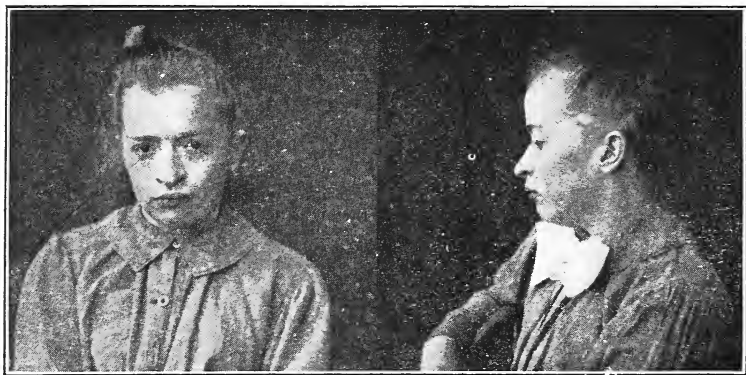
4. LOW GRADE IMBECILE.
Unable to read and write, able
work on farm under direction.



5. Cretins. Thirty-four and twenty-four years of age. Their height is indicated by a yard stick in the picture.



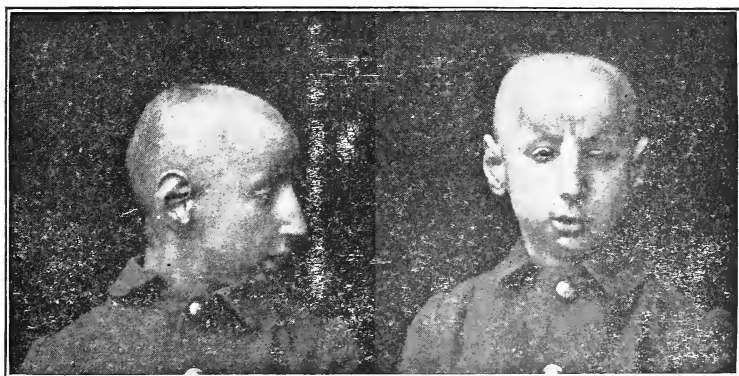
6. Excitable idiot. Mute. Fairly farm hand under direction.



7 A

7 B

7. High grade imbecile with scaphocephalic cranium. Antero posterior diameter of cranium $7\frac{3}{4}$ inches; greatest transverse diameter 5 inches. Cephalic index 64.5



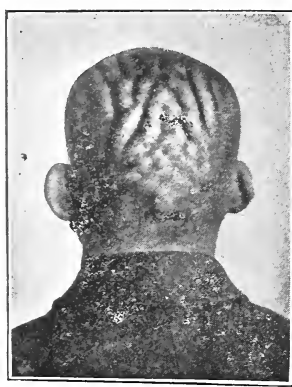
8A.

8B.

Middle grade imbecile with leptocephalic cranium with broadening of the posterior regions of the cranium,



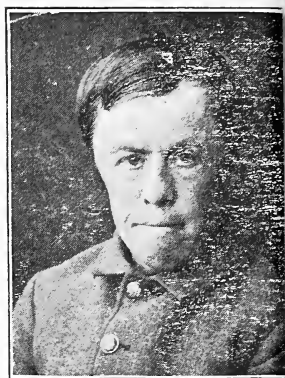
9. MICROCEPHALIC IDIOT.
twenty years. Circumference of crani-
15- $\frac{1}{2}$ inches. Can say a few words.



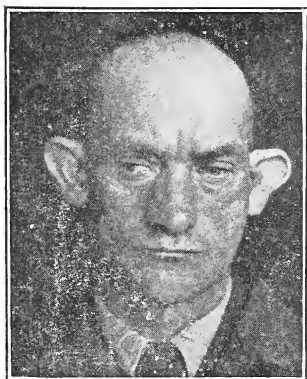
10. IMBECILE WITH ABNOR-
MALITY OF SCALP.
Folds of scalp resembling con-
volutions of the brain.



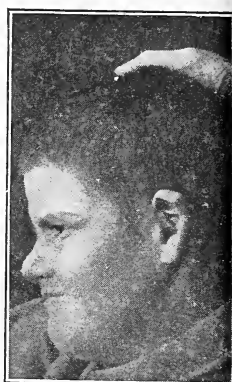
11. LOW GRADE IMBECILE.
Seventy-eight years of age.
Mental condition has al-
ways been that of a child
five or six years of age.



12. MIDDLE GRADE IMBECILE
WITH MICROCEPHALIC CRANIUM



13. MIDDLE GRADE IMBECILE.
A marked example of the Morel ear.



14. LOW GRADE IMBECILE
WITH DARWIN EAR.
Darwinian tubercle very
prominent.

THE INFLUENCE OF DEFECTIVE SIGHT AND HEARING ON
MENTAL DEVELOPMENT.

GEO. H. BICKNELL, M. D.,

Adjunct Professor of Ophthalmology and Otology, Medical Department,
The University of Nebraska.

It was with a great deal of pleasure that I accepted the invitation to be present at this meeting. Your work is one in which I have long been interested. It was my good fortune some fourteen years ago to spend a year in this institution and previous to this a number of years in the Kankakee hospital for insane. During the years that have followed it has been a pleasure, through friends engaged in the work as well as through the literature, to keep somewhat in touch with the world in which you live. It would be well if every young man preparing for the study of medicine could know more of the work being done with our great army of defectives, the deaf, the blind, the insane and the feeble-minded. It would broaden their mental horizon by giving them an insight into a department of medicine which is a world in itself, and of which far too little is known by the general profession. The officers of your institutions need the moral support of every scientific and medical man in the country. They can be useful to you in many ways. They can teach the public a proper appreciation of the magnitude and importance of your work, and thus pave the way for the removal of the two chief obstacles to your efficiency—insufficient funds and political interference.

These noble charities exist for one purpose only—the care and protection of those who are better off here than at home. If this fact could be universally recognized, the intolerable practice of turning them over to political adventurers for exploitation would speedily cease. I desire to call your attention to the fact that in the medical department of the University of Nebraska we are doing our share in bringing about this condition of affairs. We are fortunate in having the superintendent of this institution on our faculty. Besides the course of lectures given by him each year, the senior students are invited to visit this institution in a body and many of them, from time to time, have opportunities to serve internships. This enables them to carry with them through their professional careers one of the most broadening and valuable bits of training possible for a medical man to obtain. Having now, as I hope, divested your minds of any preconceived notions that I am a rank and unsympathetic outsider, I shall proceed with the body of my paper, which, I can assure you, has at least the merit of brevity.

In our studies on the development of the human mind we have to deal with two very complex sets of factors, one of which we term heredity and the other environment.

Our heredity like our relatives, is thrust upon us. The factors composing it at are, at present, from lack of knowledge, beyond the range of human interference. It is a most attractive field in which one may pursue the pleasing phantoms of an idle fancy but into which the seeker for practical results seldom ventures. The instructor of the rising generation cannot alter their heredity. The most he can hope to do is to give them the best possible environment and teach them to profit by its advantages. To the teacher, the developing of the human mind with an ideal heredity in an ideal environment, is a work of joy. It is as easy and natural as the development of a plant, the healthy seed of which is cast into proper soil moistened by gentle rains and warmed by the genial rays of the sun. It springs quickly into vigorous growth and in due time comes to its fullest development, the perfect result of the ideal in heredity and environment. So with the human being, fortunate in a perfect ancestry, surrounded by earnest teachers and suitable companions and in full possession of all his faculties, he rapidly outstrips his less fortunate companions. His mental tasks are as play and soon he outstrips them in the real work of life as easily as he did in the preparatory stages. From the ranks of such as he come those who represent the highest development of the human mind and who naturally attain the loftiest peaks of achievement. The individual comes in contact with his environment through his special senses, the major two of which are sight and hearing. Deprived in early life of one or both, his mental development must be seriously retarded and while not necessarily rendered feeble-minded thereby, he is rarely fortunate enough to arrive at that symmetry of development attained by those in full possession of their senses. Great work, it is true, has been performed by those deprived of either sight or hearing. Helen Keller, both blind and deaf from infancy, has acquired an education that will always remain as the most remarkable example of what can be accomplished by a tireless and devoted teacher. Prescott wrote his monumental histories of Mexico and Peru when practically blind, and Milton wrote *Paradise Lost* when in the same condition; but both of these became blind late in life after the full development of their faculties. We hear a great deal of the prodigies performed by the blind and deaf and they are certainly worthy of respect, but we must always remember that these are the exceptions and that individuals, blind or deaf in early life, must, other things being equal, ever remain on a lower level of intelligence than those with normal senses. No one can doubt this who has come in intimate contact with the deaf. Unless carefully educated in institutions, by teachers with special skill and patience, their condition is most deplorable. Ignorant of the use of language, both written and spoken, their mental processes are confined in the narrowest of grooves. Cut off from the voices of friends, the beauties of music and the myriad sounds of nature, development is impossible. Unable to derive profit from the printed page or the conversation of friends, they can draw no conclusions based on the advice or experience of

others. To quote Gallaudet, one of the greatest of deaf mute teachers, they soon become introspective, morose, suspicious and unhappy.

This may be an extreme view of the situation. Suppose we take a child who is moderately deaf only and let him endeavor to secure an education under modern high pressure conditions. On account of his imperfect hearing he can not profit fully by the oral instruction, by far the most important in the first years of school life, and he falls behind at once. Should his teacher be careless or superficial, he sets him down as dull and stupid. His parents only too often make the same error. Continually reminded of his dullness, he soon comes to believe it himself. His inattention increases, he falls hopelessly behind and either drops out of the race entirely, or remains a cripple to the end. If he is endowed with unusual determination and is fortunate in his teachers, he may overcome his handicap but this is not the rule. Suppose we have a borderland case, a child who can not be classed as feeble-minded, yet whose intelligence is slightly below the normal and who does not take readily to instruction. If he can see and hear well and is fortunate in his first teachers, he may receive an impetus in the primary grades which will awaken his dormant mental energies and carry him up on a level with others of his age. With defective sight or hearing his case is hopeless and he is doomed to remain for life in a grade much lower than one to which he might have attained with normal sight and hearing. My work brings me in daily contact with children classed as stupid, the cause of whose apparent stupidity often lies in an error of refraction or curable ear defect. Many of these unfortunates are neglected until it is too late to secure the best results from treatment or to make up the valuable time lost during the early years of school life.

The remedy for this condition of affairs is simple and is now being applied in a few large cities. Every child upon entering school is examined to ascertain the acuity of sight and hearing. The parents of those found markedly defective are informed of their condition and given an alphabetical list of oculists and aurists as well as of the different free clinics. Those found to be markedly and incurably defective are advised to attend schools where special attention is given to such cases instead of remaining where it would be impossible for them to receive proper instruction.

Some of these problems are met in this and other institutions of this kind, for in everyone of them are many children with refractive errors, strabismus and congenital cataract, besides numerous other affections of the eye and ear. Although there are no accessible data upon which to found such an assertion, I have no doubt the proportion of eye and ear defect in such institutions is much greater than in outside life. You have, no doubt, some of the borderland cases who, if they can see and hear well, may yet be reclaimed and sent out useful members of society instead of remaining a burden upon it for life. There must be in every state institution of this kind a large amount of work which could be done in the improve-

ment of sight and hearing. Here is an opportunity for the youngest member of the medical staff to distinguish himself by post-graduating long enough to become reasonably familiar with this work and taking it up in a systematic manner. He would find a rich field for study and practice and would confer great benefit on those in need of such assistance beside preparing himself in a congenial line of work in which he might some time later wish to specialize. He could examine the eyes and ears of all present inmates, as well as those of new arrivals, and by properly tabulating his results could make them a valuable addition to the history of each child. There are at present no data concerning the visual and aural conditions of inmates of American institutions. If some young man with a literary turn of mind will accumulate and publish such data in the form of a monograph he will have done a work of considerable scientific value and interest and one which would be greatly appreciated by students and writers.

With modern medicine pushing into every possible field of research and leaving no stone unturned to discover causes and effects, we should not neglect the plain and simple problems. The tendency of the day is, I believe, for us to allow our minds to become too firmly fixed on the minute and abstruse to the neglect of some things which are more easily seen and which would yield more practical results with less work.

I hope none of my remarks will be in any way construed as a criticism on the noble work being done by the gentlemen of the association. I simply offer them as suggestions of what may be done in the future.



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EDITORIAL.

THE VALUE OF SCIENTIFIC OBSERVATION.

No feature of training children and youth is more to be emphasized than the habit of observation. The corollary of this is the habit of noting and comparing associated facts; of learning to read the lessons that nature is constantly presenting in graphic and tangible form.

It is a long way from the old, conventional custom of reading into the pupil the lessons of the school and the modern plan of requiring the pupil to read his own lessons out of the things he sees, touches and hears. Fortunately, minds are not all made alike. Their interpretations of similar things are not the same. As some one has aptly said, "Millions of people had watched an apple fall to the earth, but only Sir Issac Newton saw the earth

fall to the apple." So, when human minds are taught to observe carefully the things of nature about them, she speaks to each in a language which he, perhaps, better than any one else, can interpret. It is thus that we have new discoveries that give us definite laws, and he who persistently follows a line of systematic observation, comparison and deduction, is sure, in the end, to find something which has passed unnoticed by others.

We are, to-day, in the midst of a wide-spread and intense interest in the study of heredity, and we have every reason to believe that the next few years will be fruitful of many practical and definite laws pertaining to the improvement of plants, animals and, let us hope, mankind by careful breeding. But all this wonderful interest has arisen from the published results of experiments by the Austrian monk, Mendel, who patiently planted and grew and compelled to be fertilized as he desired, a few, simple, garden flowers. He worked, of course, with a definite aim and fertilized for a definite purpose. But the secret of his success lay in the fact that he observed his plants carefully, made careful records of his results and kept up the experimentation until he had sufficient data from which to draw definite conclusions.

The laws of Mendel are already recognized as authoritative in plant breeding and have even been successfully demonstrated to be true in animal breeding, and we shall expect large results in the future. Mendel's flowers were no different from those of the same species during the whole history of the world. They grew, blossomed, faded—grew, blossomed and faded, century after century. Thousands and thousands of people watched the processes, but yet it remained for this simple monk to study and compare colors, form of leaf, length of stem, and find the genetic relation that given characteristics of progeny bear to their progenitors and thus deduce definite laws.

Thus nature is always ready to disclose her secrets to the thoughtful student, and Mendel, the Austrian monk, will be known in history when the multimillionaires of to-day are long forgotten.



PRESIDENT'S ANNUAL ADDRESS*

GEORGE MOGRIDGE, M. D., GLENWOOD, IOWA.

LADIES AND GENTLEMEN AND MEMBERS OF THE ASSOCIATION: For the second time in the history of the association we are in annual session at the Iowa institution and I assure you that your visit is a pleasure which has been looked forward to, not only from the associations we have anticipated but from the influence and uplift that such a gathering confers.

Twenty-two years ago was the occasion of your first visit and I am satisfied that the impressions for good resulting from it have not yet faded from our institution traditions and if from the present meeting shall radiate similar lasting results, the effects of it will be for the next quarter of a century.

There has, in recent times, been some question as to the advisability of continuing to hold the annual meeting at one or other of the institutions; it has been suggested that they might be better attended if held in some central city. For my part I look upon the association as having been abundantly successful under the present arrangement and this fact leads me to conclude that a change is not at this time imperative. This matter I trust will be fully discussed and doubtless a wise conclusion will be reached. Another matter in this connection is the time of meeting. June is a busy month with institution people; probably our members are less free in this month than in any other. Some have annual meetings and all that they entail, on their hands; with others it is the close of the fiscal year and with all it finds the added work entailed by the close of the school year. This matter I trust will also receive your consideration. Realizing the importance of a liberal attendance at our meetings and somewhat of the difficulties as to the present custom as to time and place, the officers have made special effort this year to obtain a full representation in order that the foregoing matters might be fully considered. The object of our association is, "The discussion of all questions relating to the causes, conditions and statistics of idiocy and to the management, training and education of idiots and feeble-minded persons; it will also lend its influence to the establishment and fostering of institutions for this purpose."

How well the objects promulgated by the fathers of our work have been lived up to is demonstrated in the number of states that have made special provision for this class in the past thirty years. In 1876 there were six institutions devoted to the care of these children—at present there are twenty-eight such. The most recently established is in the state of Montana. In 1895 a building was completed for the care and training of feeble-minded children in connection with the state school for the deaf and blind at Boulder, and doubtless this is the nucleus of what will in time be a separate

*Delivered at the meeting of the American Association for the Study of the Feeble-Minded, Glenwood, Iowa, June 13, 1906.

institution such a course having been followed in several states. There are, however, many states in the Union where the feeble-minded are seemingly neglected and in these states is a field for the influence of this association and such influence is constantly at work. I commend for our hearty co-operation the *Journal of Psycho-Asthenics*, the official journal of the association. To maintain this periodical has called for much sacrifice on the part of the one on whom the burden of the work has fallen. I know it has been a work of love to our good and genial secretary but the association should lend as much assistance as possible.

As time goes on the problems confronting our work are slowly being solved. One of these has been the caring for the epileptic in institutions for the feeble-minded. A few states are maintaining separate institutions for these two different classes, while others are not yet in position to do so. It appears to me the tendency is toward a separation and as the demand for the accommodation of the purely feeble-minded in our institutions is continually growing, it is probably only a question of time when the necessities of epileptics for state aid will be recognized and separate provision made for them.

Another problem has been the admission of feeble-minded persons of all ages. I think, in the majority of states, the original plan was to admit children between the ordinary school age: five to twenty-one years; latterly the age limit has been removed in some states altogether and in others the age limit for the admission of females has been extended to the age of forty-six years. It has seemed to me that a well equipped institution should be provided with accommodations for the feeble-minded of all ages and I am rather in favor of such a plan than one which contemplates a separation on account of age or sex.

Another problem has been the permanent custodial feature. In Iowa, and most other states, there is no legal commitment or means of detention and as a result we are powerless when friends insist on the removal of a feeble-minded person, who, we feel satisfied, will be a dangerous element to society. Methods of detention are in vogue in some states but as a rule we have to rely on moral suasion and this is often a very poor weapon. Prevention is naturally a pre-eminent question but we are far from any practical solution. Permanent detention is one means and enlightened public opinion, with clean views of public and private hygiene, may be reasonably hoped to abate the numbers of the afflicted and yet, after all, the feeble-minded, like the poor, we shall always have with us.

One of our problems at Glenwood has been the securing of efficient help. I do not think that I would desire to keep in the service for years and years, the same help. Sometimes I doubt the wisdom of this both from my own standpoint and that of the help themselves. It has occurred to me that at least a certain percentage of them might suffer some injury mentally and perhaps physically by a too long continued service, especially when the

service is in direct contact with the children, so that I do not always regret losing the services of some of my people, especially when they are entering into other lines of employment or changing their condition. A thought I have had has been to secure bright, active young people, those with some object in life and such persons, I have ordinarily found, give to their charges intelligent and kindly care for the two or three years they remain in the service. When I have been fortunate enough to secure such I have had satisfactory results and the discipline of institution life has well repaid them for the service. The "institution tramp" is a poor tool to work with but occasionally he creeps into an institution, considering himself "experienced help." May we be preserved from him.

The schools of our institutions continue a noteworthy work, not alone in the results obtained with our children, but from the radiating influence of methods to the schools outside our own immediate influence.

A rather noteworthy fact is the establishment of so many private schools for the care and training of mental defectives and I am glad to speak of the great good they are doing. The facilities in private establishments for individual training have been productive of demonstrations of value to us all.

Of the extent and efficiency of special classes for backward children in connection with public schools, I have no personal knowledge but I notice an alertness among schoolmen of the present day to study the dull or backward child and this, I take it, is due primarily to the existing institutions for the feeble-minded and the information obtained from their workings.

The past year has been one of prosperity in most of our institutions. I infer that the material and numerical conditions are improved over last year.

I have found that a ready response is usually forthcoming when our needs are accurately and reasonably presented and doubt not that all the members of the association have found the same to be true.

While we are indulging in thoughts of progress and prosperity, let us not forget that misfortunes are apt to occur. The California institution recently passed through a dreadful experience during the great earthquake. Their buildings were all badly shattered, many being destroyed, and yet all this was without loss of life or great bodily injury. That this is so reflects credit on the faithful workers of that institution and we can feel a flow of pride in our co-workers' fidelity to their trust.

Ladies and Gentlemen: As the retiring president of the association, I am more than pleased to see such a large assemblage and although a little late, I bid you all a hearty welcome to Glenwood and Iowa's Institution. May the result of your deliberations be of such benefit to those unfortunates for whose good we are associated together that the time will soon come when not a single feeble-minded person in our nation will be without adequate protection.

FEEBLE-MINDED AND EPILEPTIC.

REVIEW OF LEGISLATION FOR DEFECTIVES IN THE UNITED STATES FOR
THE YEAR, 1905.

J. C. CARSON, M. D.,

Superintendent of Syracuse State Institution for Feeble-Minded Children.

IN relation to the epileptic and feeble-minded it is noteworthy that the governor of no less than eleven states made mention of one or the other of these classes in their messages for 1905.

In three of the states, Connecticut, Indiana, and Michigan, the recommendations were in the way of provision for epileptics on the colony plan, the Governor of Michigan especially recommending it along the line adopted by the State of New York at the Craig Colony.

In the other eight states, Delaware, Idaho, Illinois, New Hampshire, Massachusetts, Nebraska, New York and Wisconsin, references to the feeble-minded were made and in each instance in the nature of recommendations either for state provision where none exists, or for increasing the accommodations of already existing institutions. In Illinois, New Hampshire, Massachusetts, and Nebraska a recommendation was made especially to provide for an additional number of feeble-minded girls or women of the child-bearing age.

LEGISLATION.

CONNECTICUT.—('05 S. a. ch. 450). The legislation in this state was in the form of a resolution authorizing the appointment by the governor, of three persons to investigate methods for the care and treatment of epileptics, said committee to report, at the session of the legislature in 1907, the outcome of such investigations and the best practical plan for securing the most humane and curative results in the care and treatment of such persons. Interpreted, the resolution as adopted means a preliminary step towards public provision of some kind for the epileptic class in that state.

MICHIGAN.—The legislature in this state amends '93, ch. 209, by adding to it another section (30). The new section requires that in making application for the admission of persons to the state institution for feeble-minded and epileptic the parents or guardians of applicants shall waive all right thereafter of removing them. This is important legislation. It is no doubt intended to give the management control and custody of inmates whose parents or guardians are unfit persons. Such legislation, however, appears to be a surrender of the future right of a parent over the custody of his child and this many parents would never willingly yield. For the permanent custody of a few individual cases the law of course would for certain reasons prove very desirable. It is likely, however, that a knowledge of the existence of such a law would deter many parents from ever permitting the admission of their children to the institution.

INDIANA. ('05 ch. 159).—Section 1 provides for the establishment of a village for the scientific education, treatment, employment and custody of epileptics, to be known as "The Indiana Village for Epileptics."

Section 2 authorizes the governor to appoint three commissioners to decide upon a location for the village and purchase land best suited by its advantages to carry out the objects of the act.

Further sections provide that not less than one thousand acres of land shall be purchased for this purpose and for the erection and equipment of the necessary buildings the sum of \$150,000 is appropriated.

Section 13 provides for the maintenance of the institution by a per capita allowance of two hundred dollars a year.

Section 15 provides for the commitment of epileptic persons to the village, the form not materially differing from that usually followed in other states, namely an application to a judge of a court of record by a reputable citizen, to be followed by the examination of the patient by two experienced physicians and their certification of the existence of epilepsy.

NEW YORK.—('05 ch. 458 amending '96 ch. 546) This gives the managers upon the death of any patient at the Craig Colony for Epileptics authority to perform an autopsy, under certain conditions. The purpose of the amendment is to extend scientific pathological investigations in the study of epilepsy and is therefore to be commended.

NEW HAMPSHIRE.—('05 ch. 23 amending '01 ch. 2). Previous legislation in this state had limited the detention of inmates at the state institution for feeble-minded to the age of twenty-one years. The amendment extends the limit indefinitely for feeble-minded girls. Its purpose, a most laudable one, is the retention of feeble-minded women under custody during the childbearing period of life.

MASSACHUSETTS.—('05 ch. 282). This legislation provides for the support of certain feeble-minded persons having residence in towns of less than five hundred thousand dollars assessed valuation. The purpose of the act is to relieve the small towns of the state of the expense of maintaining their feeble-minded at the state institution by placing their support upon the state at large. It seems as if a better and more equitable law would be that making state charges of all feeble-minded persons received at the institution.

OREGON.—('05 ch. 181). This act authorizes the State Board of Public Building Commissioners to make investigations in relation to the probable cost of buildings for the care of all feeble-minded and epileptic children of the state; and to visit or send representatives to other states for the purpose of examining institutions where the feeble-minded or epileptic are being maintained. It requires the commissioners to report upon the kind and character of buildings best suited to the purpose and authorizes them to select a site and grounds sufficient to properly conduct such an institution; to purchase the necessary grounds somewhere near the state capitol if the cost is reasonable and just, provided, however, that if the site of the school for deaf mutes is agreed upon the school shall be transferred to buildings and premises elsewhere. The state is then authorized to convert the buildings and premises thus vacated into an institution for feeble-minded and epileptic children.

RHODE ISLAND.—('05 J. r. 93 & 94). In this state a resolution was passed authorizing the appointment of a joint special committee of the senate and assembly on the subject of providing a state school for feeble-minded children. In Rhode Island no institution for the feeble-minded exists and the

resolution is presumably the first legislative effort towards the establishment of an institution of some kind in the state for the care and training of the feeble-minded.

WASHINGTON.—In this state an act was passed ('05 ch. 70) providing for the care of defective and feeble-minded youth and establishing an institution therefor. Prior to this law a few of the feeble-minded in the state had been provided for in a department of the school for the blind at Vancouver. The act passed authorizes the transfer of the feeble-minded in the department at Vancouver to buildings in a new location less than two miles distant from the Eastern Washington Hospital for the Insane, and places their supervision under the superintendent of that hospital. It is probable that the arrangement of caring and providing for the feeble-minded in connection with the blind proved unsatisfactory. The law now shifts the arrangement over to a management in connection with a still different class, the insane. Our prediction is that this plan will also prove unsatisfactory and in the end will be found a mistake. In providing for two different classes under one management it is difficult to give each class the separate and distinctive attention required. The one is apt to predominate or else intermingle too much with the other. The insane require care and treatment; the feeble-minded, care and training. As we view it, the only gain made by the law is a more extended accommodation for the feeble-minded and a rather more distinctive character given to their care in the establishment of a separate institution.



HOW DOES AN EGG DEVELOP INTO AN ANIMAL?

IN a recent number of the Scientific American, Professor Charles R. Stockard, of Cornell, N. Y., University, gives an interesting account of modern discoveries in biological science. The main points are set forth in the following condensed extract.

All life from the egg. How? How does the complex animal arise from its seemingly simple beginning in the egg? Why does the frog's egg always develop into a frog instead of a fish or a lizard? Which was first—the egg or the hen? What power, mechanical or vitalistic, does the bird's egg contain which causes the living chick to break forth from the shell after subjection for a limited period to a certain temperature?

Since the days of William Harvey who discovered the circulation of the blood, it has been found that the egg is really a single cell and that all animal bodies are composed of collections of many cells. A cell then, may be described as the vital unit. The egg is such a cell and from this egg our task is to produce the frog or the hen.

The frog's egg is a small sphere about as large as a squirrel-shot surrounded by a mass of jelly-like material similar to the white of a hen's egg. To develop into a frog the egg first becomes divided into two halves which stick close together. Each half is a cell. A second division then occurs and the egg becomes four-celled; a third division splits each of these four cells and we have an eight-celled egg. This process of division continues until the egg is divided into hundreds of little parts, each of which is a cell. During this period a cavity is formed in the center of the cell mass, so that the entire egg may now be likened to a hollow rubber ball, the many cells forming the wall. A folding process then begins, as if one pushed in the wall at a certain place, thus converting the hollow ball into a two-layered sac. From this two-layered sac, by a continuation of cell division and folding processes, the form of the tadpole is gradually moulded and at last it swims forth and darts to and fro in the pool of water where the egg was laid. After living for some time as a fish-like animal breathing with gills, the tadpole becomes more ambitious and four little legs begin to bud forth and lungs develop. Finally the legs grow long, the lungs become efficient respiratory organs, the gills are lost and the young frog leaps upon dry land a finished marvel from the hands of that great prestidigitator, nature. All animals, from those very low in the scale up to the highest, develop in a fashion strikingly similar to that briefly described for the frog. Usually, however, the egg develops continuously or directly into the finished animal, so that there is no tadpole or larval stage. From the hen's egg hatches the fully-finished chick, exactly like its parents in general body form.

Now if, according to the old theory, the animal is really already formed in the egg or cell, then when the egg divides and gives rise to two cells each,

of these cells must represent a given portion of the animal body—they may be, we might say, its right and left halves. When one of these cells is artificially injured or killed, one-half of the body should be absent, provided that the other cell is capable of continuing its development alone. If we cut the first two cells apart, each should develop into a piece or a half of the animal. Looking now at the other side of the question, let us suppose that the animal is not preformed in the egg but develops step by step from a simple beginning into the complex end-product. We should then find, on separating or cutting apart the first two cells in the division of the egg, that two embryos would result since each moiety might have the power to develop as a whole egg.

Such experiments have been performed upon many different kinds of eggs. When these have been divided into two cells, if the cells are cut apart, each one develops into an embryo in all respects normal except that it is about half the usual size. If, when the egg has divided into the four-cell condition, the four cells be separated or broken apart, then we get four dwarf embryos, each one-quarter normal in size. In the case of the jelly-fish we may perform such an experiment on the egg which has divided into sixteen cells; when the sixteen cells are separated from one another we get as many embryotic dwarfs as there were cells. This is an experiment of vast importance since the experimenter has taken an egg which would have normally produced one individual animal and from that single egg has caused to be produced two, four, eight, or even sixteen individuals. Some eggs may be cut to pieces before they have started to divide and the several pieces made to develop into individuals. The separation or breaking apart of dividing eggs probably takes place at times independent of the experimenter. When such a thing occurs we get twins developing from what would have given rise to a single individual. Twins occasionally resemble one another to such a degree that they are indistinguishable. Such cases are called duplicate twins, while other twins may resemble one another to no greater degree than do any two offspring from the same parents. These are therefore called fraternal twins. This latter class result from two independent eggs which merely chance to develop at the same time. The duplicate twins are likely due to the development of the separated cells of one egg. This idea is substantiated by the occurrence among many kinds of animals of what are known as double monsters, or Siamese twins, two individuals with their bodies united or grown together. When the first two cells from the egg are in some way pushed unusually far apart but not entirely separated, they develop each into a complete embryo although the embryos are joined together. Such double embryos may be artificially made to develop from the eggs of starfish, sea-urchin, frog, and many other animals.

So far then it appears that the animal is not at all preformed or contained in miniature in the egg, but let us not reach too hasty conclusions. Ex-

perimenters with the eggs of other animals have found strangely contradictory results. When the cells of the dividing eggs of certain worms or those of some sea-snails are separated, we do not find complete embryos resulting from the development of the isolated cells. The separated cells develop into parts of embryos, certain cells forming definite portions. In one of the snails, for example, some cells are destined to develop into the posterior region, thus giving headless individuals, while other cells develop into the the head parts, the body region being absent. Here then we do seem to find a preformation, or at any rate a prelocalization of the parts of the embryo since in the early egg one spot or area is destined to give a definite part or portion of the future animal. Strange as it may seem, certain of these areas are visible in the egg before embryonic development has begun. Owing to the presence of variously colored substances in some eggs, one is able to remove areas which represent future portions of the animal, just as though we picked the future eye or brain out of the egg. This may be called the modern idea of preformation; although it does not mean that the embryo actually exists in miniature, it nevertheless holds that a great complexity does exist in some eggs, although the animal may not be preformed, it is doubtless mapped out within the egg substance.

It is surprising to find that the development of the frog's egg is greatly affected by its position. The egg naturally floats with the heavy yolk turned down and the opposite lighter region pointing upward. After the egg has divided into two cells if one is killed with a hot electric needle, the other cell continues development but forms only one-half of the animal. Should the egg, however, be placed in an inverted position, with the heavy yolk up instead down, then either of the first two cells will form an entire animal instead of only one-half. A German experimenter by fastening the frog's eggs upside down obtained double animals in various associations, each animal being a whole one.

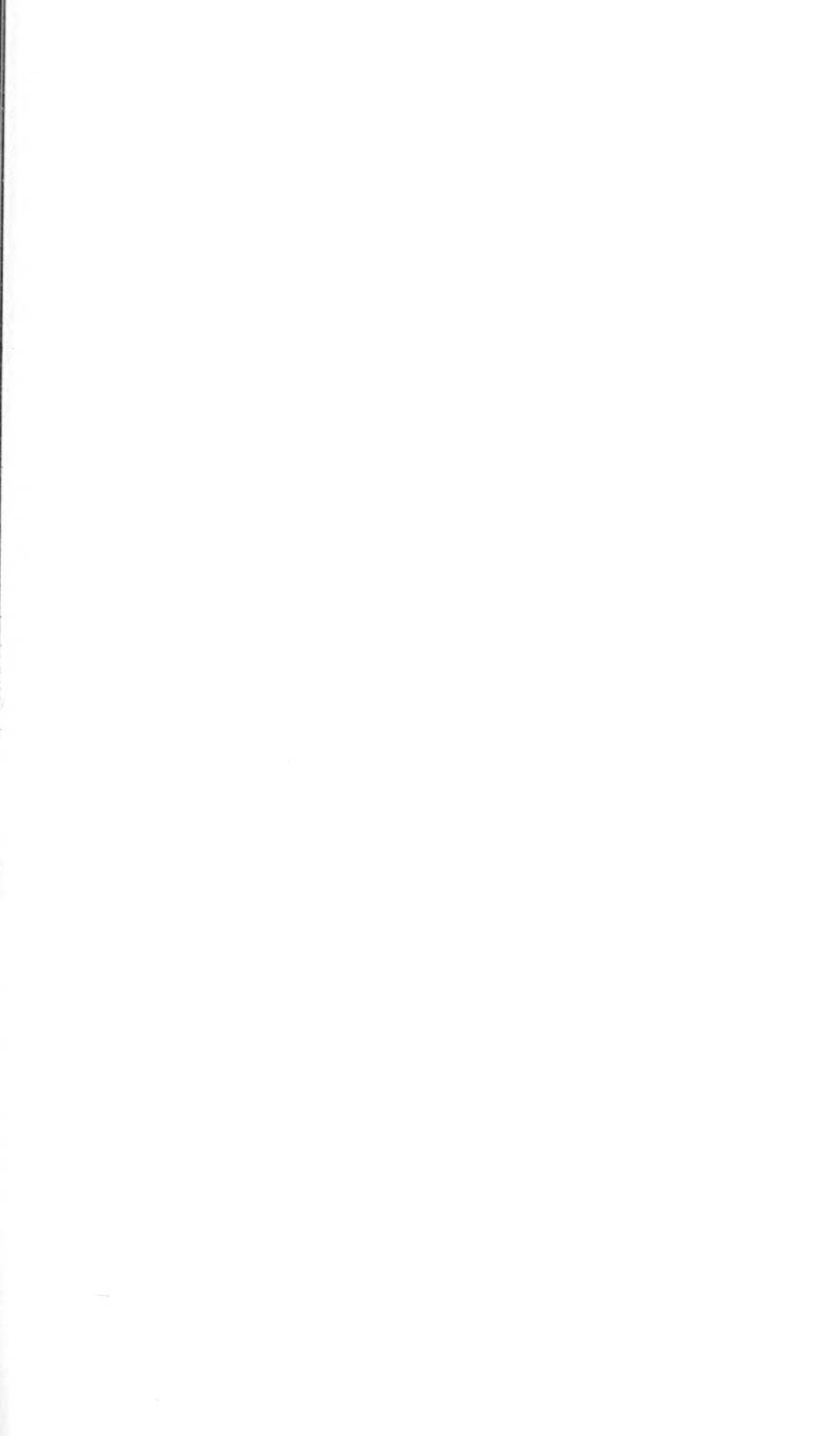
Concluding his consideration of whether or not the animal is preformed in miniature in the egg, Professor Stockard sums up thus: "There is no egg which at the beginning of its development shows any indication of a ready-formed animal, although in many eggs certain regions or parts are definitely laid out and destined to form given portions of the future animal. During development all eggs gradually become more and more divided up into parts which are to give certain organs of the animal."

The professor further tells of strange results that may be achieved by strange experiments on developing eggs. Organs may be transferred from one embryo to another; organs may be planted on various parts of an animal's body—an eye may be made to grow on the top of the head, on the neck, or on the back of a frog, etc. If certain parts of the hip-bone of a tadpole be scratched or injured, extra legs are formed and in this way frogs have been given as many as six hind-legs; double-headed salamanders with a single eye in the middle of the face have been hatched by manipulations of the eggs, etc.

In conclusion the author says: "Chemical solutions influence embryos to form in peculiar fashions, and probably on final analysis, each chemical element will be found to cause a specific embryo from a given egg. It is likely that each species of animal differs from all others on account of the particular chemical composition of the egg from which it develops. If the chemical composition of the frog's egg could be made identical with that of the lizard's egg, then a lizard might arise from the egg of a frog. Some sudden changes of evolution are thought to take place in the egg. Thus the composition of the egg may be affected and the young animal resulting from this egg may differ in appearance from its parents."

From this we may conclude that the egg was before the hen and that the bird which produced the egg may not have been strikingly like the hen.





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ORIGINAL ARTICLES

SUGGESTIONS CONCERNING THE PSYCHOLOGY OF MENTALLY DEFICIENT CHILDREN

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Twenty-five years ago, psychology was a descriptive science. Any text-book written at about that time discussed questions of the logic of pure reasoning, sleep, free will, and similar topics. To-day psychology is on the way to becoming an experimental and a quantitative science.

We have laboratory courses in psychology just as we do in biology and chemistry. We are attempting to measure mental reactions and

changes of all sorts—the growth of habit, of voluntary control, the loss of temporary memory, the reliability of personal judgment, etc. This change was due in a large measure to the fact that people began to think that if psychology is of any real value it should touch and help to explain problems of real life; that it should be of service to the courts in determining the reliability of individual testimony; it should suggest possibilities of advertising which would appeal to the public; it should help to solve some of the problems presented by the youthful criminal; but above all, it should be of service in determining methods of teaching and subject matter to be used with children of different ages and abilities.

In this last field much definite and scientific work is being done. Methods of teaching are subjected to definite tests and their worth so decided. As an example, take Dr. Rice's investigation concerning the different methods of teaching spelling in which he reached the comforting conclusion that it makes no difference what method is used, or from what kind of homes the children come, they will, as classes, reach about the same average ability in spelling.

With regard to defective children these questions have been left largely to physicians, but now they are beginning to attract the attention of the psychologist, too. The study of the psychology of the mentally defective should offer much value, not only from the standpoint of the education and treatment of them as a class, but also from the standpoint of the education of the ordinary child, and when physician, psychologist and practical worker among these children shall work together, then great results will follow. The experimental study upon which I shall report is simply suggestive along this line.

There are three questions taken up by the investigation—questions about which much has been written, most of it being upon the affirmative side, but in connection with which there has been but little experimental work. These are:

1. Are the mental defects of the feeble-minded equalled by the bodily defects of general nutrition?
2. Is the mental defect equal in all lines?
3. Do the feeble-minded form a separate species?

The tests made in answering these questions were made on the school cases at Waverley, Mass., and at Lakeville, Conn., and on the

children in two of the New York classes for defective children. The number tested was about 150, the large majority of the children being between nine and sixteen years of age.

The tests given may be classed in four groups—measurements of physical condition, of maturity, of memory and of intelligence. This grouping is a rough one, and in some cases a given test may belong in more than one class, but for clearness' sake I will discuss them under these headings. (For a full description of the tests see "The Psychology of Mentally Deficient Children," by Nosworthy, pages 20-26.)

The chief value of such measurements will be in the comparison of the standing of the idiots with that reached by children in general, in the same tests. In order to make this comparison, these measurements were obtained from ordinary children to the number of several hundred. The median, instead of the averages, with their probable errors (the limits within which 50 per cent. of the cases fell) of distribution, were obtained from the actual records of the children, so that a scale was formed for each measurement, showing the ability of children of any month-age. The usual method of comparing such results is to compare the records of one set of individuals with the central tendencies of those of the others of the same age and sex. But in this case there were not enough defectives of any age to make the results reliable, so that another method had to be adopted. The difference between the record of each defective in any test and the median for an ordinary child of the same age and sex was found. The difference was then transmuted into positive or negative multiples of the probable error, as the case required. For instance, the height of a ten-year old boy is 129.6 cm., with a P. E. of 3.8. If a defective of the same age measured 120 cm., his mark, according to this method, would be—2.53. The advantages of this method are first, that I can compare the records of the 150 defectives tested with 500 or 600 normal children, just as if I had 150 feeble-minded and 600 school children all of the same age and sex; second, each test is, so far as possible, comparable with every other, irrespective of whether the trait measured is physical or mental. The following table gives the result of this comparison. For normal children, 50 per cent. will fall above the median and 50 per cent. below, in every test; 75 per cent. will fall above "—1 P. E." and 25 per cent. below; and 91 per cent. above "—2 P. E."

	Defectives.		Per cent. above -1 P. E.	Per cent. above -2 P. E.
	Per cent. above median for normal children			
Height (7)	45		61	77
Weight (8)	44		66	77
Pulse (9)	49		69	86
Temperature (10)	26		59	77
Weight test (13)	18		28	39
A test (1)	9		18	34
a-t test (2)	1		14	28
Memory of unrelated words (4)	6		18	27
Dictation (14)	10		10	21
Memory of related words (3)	5		19	30
Part-whole test (6b)	9		17	27
Genus-species test (6c)	9		16	17
First opposite test (6A1)	0		.9	5
Second opposite test (6AII)	0		1	7

It is evident from these figures that in the measurements of height and weight the defectives almost reach the standard of children in general, there being only 5 per cent. and 6 per cent. less of the defectives at the median point than of school children. In the tests of memory and of intelligence only 10 per cent. and 5 per cent., 9 per cent. and 0 per cent., respectively, of defectives reach the 50 per cent. grade of the other children. The same thing holds true if we notice in each case the percentage of those above minus once the P. E. and minus twice the P. E. In the physical measurements there are about 4 times as many defectives above—1 P. E. and about 2.5 times as many above—2 P. E., as there are in the memory and intelligence test. Without doubt there is a decided difference between the bodily and mental deficiency.

The same facts are emphasized by the following graphic representations. In every surface the zero point represents the median for school children in general; the figures on the right of the zero point are positive multiples of the P. E. and those on the left are negative multiples. Therefore, the children whose grade is indicated on the right of the zero point are above the standard for children at large in that particular measurement and those occurring on the left of that point are below the ordinary ability. The figure at each point shows how much above or below ordinary ability in multiples of one-tenth of the P. E.

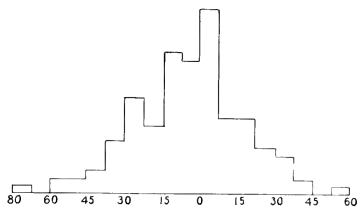


FIG. 1.

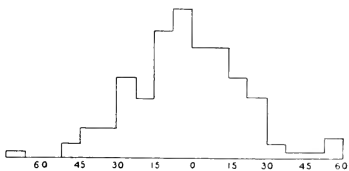


FIG. 2.

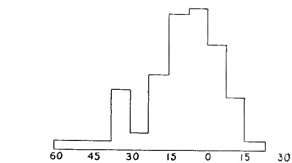


FIG. 1. HEIGHT. FIG. 2. WEIGHT. FIG. 3. TEMPERATURE

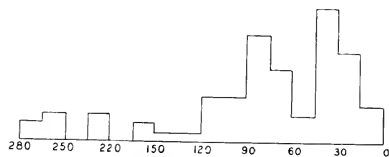


FIG. 4. INTELLIGENCE TEST.

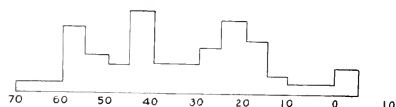


FIG. 5. MEMORY TEST

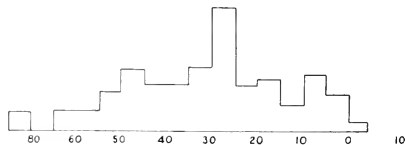


FIG. 6. MATURITY TEST

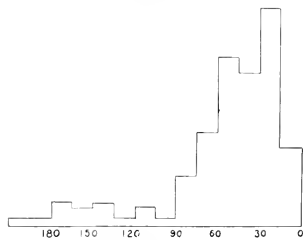


FIG. 7. TOTAL COMPOSITE OF ALL MENTAL TESTS.

Heigh
 Weight
 Pulse
 Temp
 Weight
 A test
 a-t test
 Memo
 Dictat
 Memo
 Part-w
 Genus
 First o
 Secon

It
 and w
 eral, tl
 at the
 and of
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These facts, then, seem to justify the conclusion before mentioned and to show that whatever idiots may be on the mental side, as far as concerns physical conditions of growth, nutriment, etc., they are not far from ordinary children. "The evidences of constitutional weakness, of slow growth, and of inferior size" which by many are held to be characteristic of mental deficiency, do not appear. These children were certainly not two inches shorter and nine pounds lighter than children in general.

It may be objected that the idiots examined were a selected group and that is the reason for the high results. True, the very worst idiots were not included in these measurements, those poor wretches so deformed that they can neither walk nor stand, but on the other hand neither are all ordinary children examined in obtaining standards for height, weight and other physical measurements. Only the school children of the several cities were measured and weighed when the standards for "normal" children were obtained, and of course those children who are all right mentally but who are deformed and diseased physically do not so often go to school. In both instances school cases were examined, and to that extent both groups were selected, and therefore the results are comparable.

It may be further maintained that although the results obtained are comparable to some extent, yet they do not represent the true state of the case, for the proportion of mentally deficient who are physically defective and the proportion of ordinary children who are so afflicted, are not all the same. In the first place, this has to be proven; at present it is merely a matter of opinion. In the second place, those children who are both physically and mentally deficient are more likely to find their way to institutions than those who may be only mentally deficient. Parents will keep a child at home if he is physically able to move about and attend to his own wants even though he may be below par intellectually; whereas, if he is physically as well as mentally deficient he is much more troublesome and consequently more likely to be sent away. Therefore, even should it be proven that in institutions for the feebe-minded the proportion of physical defects is greater than that found among ordinary school children, the point would not be proven.

It is rather interesting to note that mouth temperature seems

more closely connected with the degree of mental deficiency than with physical health. The percentage of idiots that reached the median line for other people in this measurement, was 26, which is rather more closely correlated with the mental than with the physical tests. Figure 3 emphasizes the fact, for the curve of distribution is in shape more like those representing the distribution for intelligence than like those for height and weight.

In order to show this more clearly, I took the temperature of the 20 brightest girls from the third and fourth year classes of a large public school, and 31 ordinary girls picked from the same classes, ranging in age from 8 years to 13 years 6 months. These results, with those gained from 38 mental defectives found in the same school, and those gained from 55 idiots in institutions, show that the average temperature of the brightest group was 99.2; of the ordinary group, 98.4; that of the group of defective in the same school, 98.3, and that of the institutional children, 97.4.

The second question concerned the generality of the mental defect. The table and the charts both offer evidence that the defect is specialized and not equal in all directions. That, in going from the tests of maturity to those of intelligence, we find an increasing number of idiots that fall below the standards for ordinary children.

Besides finding a greater number below the standard, the variability from that standard becomes greater in the intelligence tests, and also the average ability as compared with other children is lower. Figs. 4, 5, and 6 show the median for idiots in the intelligence tests to be about,—7P. E., for memory,—3.5P. E., and for maturity records,—2.7P. E. The idiots are nearest the central tendency for children in general in the measurements of mental traits which are chiefly tests of maturity, and farther and farther away as measurements are made which are tests of ability to deal with abstract data. They are $2\frac{1}{2}$ times as far from the median for children in general in tests like the opposite test, or the genus-species test, as they are in tests like the A test or the perception of weight.

To speak of idiots, then, as being equally deficient in all the mental powers is false. "Arrested mental development" must be taken to mean unequal arrests, some powers receiving a very much greater check than others. The feeble-minded child may be weak on all sides of

his mental make-up (though this is not true of all of them) but that is not telling the whole story. From the point of view of the psychologist and the educator it is fully as important to know that the idiot's perceptive powers are almost $2\frac{1}{2}$ times as strong and accurate as his intellectual powers, and almost half as strong again as his powers of memory, as to know that he is weaker than the ordinary child in all these particulars.

The question as to whether there is any correlation between the traits observed among idiots, might be raised. But the matter of correlation is rather difficult to handle when one is dealing with such extreme cases. However, the results seem to show about the same lack of correlation as is found when the question is investigated with regard to ordinary people.

The third question had to do with whether the feeble-minded formed a separate species, outside the normal surface of distribution. Both the form and the spread of the distribution of cases, as shown in figures 4, 5, 6, and 7, show the answer to be a negative one. A group of individuals forming a separate species in any trait, would be a group clustering about a certain point and lying in the main outside the distribution of ordinary people. Its cases would, in the main, lie over 5 P. E. distant from the median people in general. This is evidently not true, for in each test the cases run up to the median for ordinary children, and about fifteen per cent. of the cases are included within the limits of the normal distribution. The feeble-minded, then, must be considered as forming the fag-end of the normal distribution in various traits.

About a year after these tests were made they were repeated for some of both the defectives and the ordinary children in order to see what changes and what degree of change had taken place in each class, and how far these changes were comparable. The children who were tested a second time were cases in the Waverley school for the feeble-minded and the group of nine-year old ordinary children from one of the New York city schools. Each child was marked for every test, and these records compared with his record of a year ago in the same test. If the marks were the same each time, the improvement was rated at zero, a higher or lower mark in the second trial being indicated by a plus or minus mark on the improvement rating. Each test was then considered by itself, and the percentage of the total number of

cases which had improved and the median amount of improvement for each test was found, both for the deficient and the public school children. A comparison of these final marks shows the relative improvement of each class in a year's time. The following table shows these results:

	Per cent. of improvement	Median improvement	No. of cases	Per cent. of improvement	Median improvement	No. of cases.
Height		†3.8	34			
Weight		†3.0	33			
A	80	†7.7	57	85	†5.0	14
a-t	43	†.9	56			
Rel. memory	46	†.2	41	30	-1.0	10
Unrel. memory	60	†1.7	43	29	-1.0	11
Opp. first (class)	51	†1.2	47	69	†2.5	13
opp. second (class)	69	†2.7	46			
Genus species	60	†1.6	50	92	†6.0	12
Part-whole	60	†1.7	43	92	†4.3	14
Weight test	36	0	28	68	†2.6	13
Opp. first (indiv.)	71	†3.0	30	69	†2.5	13
Dictation	60	†4.2	28	57	†1.3	14
Maze, amt.	28	-2.0	28	42	-1.0	14
Maze, touches	60	†5.0	28	35	-9.5	14
Blocks	55	†1.2	29	85	†10.0	14

Comparing the amounts of improvement of the feeble-minded and the nine-year old school children, we find that in two of the maturity tests the defectives improve more than normals, namely, in the A test, and in memory of unrelated words in which the respective ratings are 7.7 and 5.0 and †1.7 and -1.0. In the rest of the maturity tests the ordinary children improve more than the defectives. In the tests of memory, including the dictation work, the defective children improve much more than other children, for their total record gives a change of †4.4 and that of the others, only †0.3. That this change is a general one and not caused by great changes in a few cases is shown by the fact that fifty-three per cent. of the defectives improved and only forty-three per cent., of the other children.

In the intelligence tests the greater improvement is with the ordinary children, although there is decided improvement shown by the feeble-minded. The average of the median of improvement in the four intelligence tests for normal children is †4.3, while for the defectives it †0.8.

Looking at the series of tests, the contrast between the defective children and ordinary children is not so marked as might be expected, for in one-half the tests the former improved more than the latter, and in the other half the reverse is true. In only two of the measurements do the defectives show no improvement, whatever, while the ordinary children show the same lack in three of the tests. If the total amount of the improvement in all the tests is considered, the defectives have the advantage, 25.5 to 21.7. But this result is due largely to one measurement, in which the defectives have a mark of +5.0 and the ordinary children -9.5. Discarding this one test, the greater improvement will be found to be with the ordinary children, 31.2 to 20.5.

Comparing the improvement of the defective children in one class of test with their improvement in others, we find that there is least improvement in the results of the intelligence tests, with an average improvement of 1.8; those of memory rank second with a mark of 2.2, while the greatest improvement is in the tests of maturity, the average being 2.4. Those figures show that the feeble-minded improve most in those mental traits in which they are most like the ordinary child, and least in those traits in which they are most unlike.

In all this matter of improvement the case for the defectives may not be quite so good as it seems to be, for the standards which they first attained in the tests of memory, maturity and intelligence were far below those of ordinary children. For instance, in the first measurements, only one per cent. of the defectives exceeded the median mark for school children in the maturity tests; seven per cent. exceeded it in the tests for memory, and no per cent. exceeded it in the tests for intelligence. With this state of things, of course there was much greater room for improvement in the case of the defectives than there was for the public school children. Hence, a unit of improvement for any of the former may have quite a different value from the same amount of improvement as found among the latter.

The obvious objection to these results as stated is that the comparison made is not a fair one, for nine-year old normals have been compared with defectives of all ages from seven to seventeen. However, the unfairness has probably been towards the defectives rather than toward the ordinary children, for the gain between nine and ten years of age is usually greater than the improvement be-

tween any other two years later on. This is especially true if the improvement between nine and ten years is compared with that between thirteen and fourteen. As it happens, there are more of the defectives between thirteen and fourteen than of any other two years and there are only six nine years old or under.

The results so far might mean that those defectives most like ordinary people go on improving and that those farthest from normal grow more and more unlike, resulting in a divergent series. To throw some light on this point, the whole series of defectives from the Waverley institution were divided into quarters according to their first marks in the intelligence tests. The first quarter was composed of those students having the highest marks; the second, of those having the next highest, and so on in order to those possessing the lowest marks. The improvements in these same tests of each group was then found. The average improvement of the highest quarter was .8; of the second, 1.4; of the third, 1.7, and of the lowest, 1.0. Those defectives most like ordinary people have improved least. The lower half of the class has improved more than the upper half, the averages standing 13.5 to 11. The results are still more striking if one takes simply the extremes and considers the improvement of the best five in the group as compared with that of the worst. The average improvement of the best five is .6, while that of the worst, is 1.9, three times as great according to actual figures. Here, as before, it must be borne in mind that the units of improvement are not actually comparable. This, however, does not alter the fact that the defectives fairly low in the scale do improve decidedly in a year's time,—that the improvement is not confined to those who most closely approach the normal.

The relative dependence of physical and mental growth has always attracted considerable attention from psychologists. The six defectives who for the past year grew at the most rapid rate were picked out and also the six whose rate of growth was slowest. The average improvements of these two groups in the intelligence tests were compared. The results are 1.6 for the former and 2.1 for the latter. Those who grew most slowly have the greatest increase in intellectual ability. Limiting this comparison to children of the same age, and so taking the twelve-year olds whose rate of growth was most

rapid and comparing with them in improvement in intelligence those whose rate of growth was slowest, the results are more striking,—.7 the for former and 2.5 for the latter.

The general conclusions—which of course are only tentative—of this study of improvement are then: (1) That among mental defectives a decided improvement in mental ability may be looked for after the lapse of a year, in some directions even exceeding that shown by ordinary school children. (2) That the greatest improvement is not confined to those defectives most like ordinary individuals. (3) That the improvement is not equal in all directions, but that some mental functions improve more rapidly and to a greater extent than others, and that even the functions we designate as intellectual show a marked improvement.

This investigation offers some suggestions for the training and education of the feeble-minded. If the mentally deficient are not different in kind from ordinary children, but the difference is only one of degree; if they improve as ordinary children do, more slowly in some traits, of course, then a different and unique method of education for them is not necessary, but an adaptation of the best in the methods of dealing with ordinary children will meet the needs of the defective. By this, I do not mean that the methods of the ordinary public school should be adopted, but the best methods, those based on the psychology and child study of the present, and not simply on custom. From this point of view there are several points in method which are at present receiving emphasis in our dealing with ordinary children, and which are especially applicable to defective children as well.

Before taking them up there is one question which is of interest. If the difference between ordinary children and defectives is largely one of degree, do these children need to have so much emphasis placed on the physiological method? Need it be a special feature of their training? We found them about as other children in height and weight, then do they need this side to be emphasized any more than institutional children in general do? Do not these defectives need the physical training under the same circumstances and for the same reasons that other children do? In cases of general sluggishness of disposition, of certain abnormalities, of lack of muscular control and co-ordination, certain kinds of physical exercises are prescribed for ordinary children,

and under these same conditions the same treatment would be effective for defectives.

On the mental side the effect of physical training has probably been a much exaggerated and misconstrued as that of manual training or a laboratory course in science, due to the influence of the faculty psychology. None of these subjects have a mystic, wide-spread influence on mental life as a whole. All that any one of them can do is to give knowledge, certain definite and concrete habits and interests, and possibly be a spur to mental life, to attention, and so serve as a point of departure for wider interests. From this last point of view the field of physical training may be of particular value in the education of the feeble-minded. But, on the other hand, we must recognize individual differences among the defectives just as among ordinary children; some other field may be a better starting point, offering to the child the possibility of success and therefore of development.

Our best educators believe that but a short time should elapse between an act and its result, and in most cases the result should be definitely pleasurable if the act is a desirable one. The younger the child, the greater the force of this rule. Taking up the first point, if much time elapse between the act and the result, whether that result be pleasurable or painful, the result has lost much of its efficacy, for the child has forgotten the act. If not completely forgotten, yet the impression is comparatively dim by reason of all that has happened between. A result to be of value as influencing a future act must be so closely connected with that act that the two ideas have to the mind something of the same vividness; and close sequence is the best means of securing this end. The second fact, namely, that pleasure should follow an act if that act is desirable, seems to be one of nature's fundamental laws. The simplest method, the animal method of learning, is the one which has been called "the selection of accidental successes," and the selecting factor is always pleasure. Animals learn to do a trick when some reward is offered, and the movements which bring the reward are the ones stamped in. If the result be indifferent the act is almost as likely to be obliterated as to remain. This method combined with imitation is the one adopted by children, and if the results are to be successful the element of pleasure must enter in. When "the act" becomes a mental one instead of a physical, the same

law holds. Here the pleasure may be of a higher grade,—a word of approbation, a smile, an extra piece of work to do,—but reward in some form is essential. This rule holds good with ordinary children, and, therefore, must hold doubly true of these very children—the defectives. In all their training,—physical, mental, moral or industrial,—a reward of some kind must be forthcoming; the sooner the better if the act, whether chiefly mental or physical, is desired as a habit.

The second point of note is the influence brought to bear by the psychology of memory on our methods of teaching. The memory of any event or fact depends upon two factors, the native retentiveness of the brain substance itself, and the number of associates which the particular fact has in terms of “brain paths.” The former factor cannot be improved. Every individual is limited so far as memory is concerned by the kind of brain with which he was endowed at birth. If it is easily impressed and also one which retains this impression, other things being equal, that person will have a good memory. This being true, it seems rather a poor way to improve the memory, either of normal children or of defectives, to employ the method of repetition, so endeavoring to hammer a fact home by mere brute force. The better method, certainly, would be to work along the line of the second factor determining memory, namely, to increase the number of associates. The more clues there are connected with any one fact, the more likely will it be that that fact will come to mind when wanted. Now this method seems particularly applicable to the defective class of children in the light of what we know of the brain development of the feeble-minded.

Another point of modern criticism which was mentioned as particularly adapted to the defectives, grows directly out of this and concerns the facts or associates to be given the children in school. Shall we consider them simply as storehouses and pack away in their brains everything they may possibly need at some future date? Or shall we consider them as living beings, living as children a life as full and rich as they will ever live as adults, and hence give them, in school and home, facts which they really need and in the way in which they will need them?

As evidence that the second point of view is the one which is being accepted more and more in our public schools, witness the pres-

ence of manual training, domestic science, nature study and the absence of much of the Latin, Greek and mathematics of fifty years ago. Psychology certainly supports this point of view. Interest and attention,—and if attention, then memory, understanding, appreciation, etc.,—go hand in hand. Voluntary or forced attention is of value largely because interest may result; if it does not, the attention passes to something else. Now interest is dependent largely on use. "Consciousness is in its very nature impulsive." Anything that the child or adult needs,—finds a use for,—must of necessity be interesting, for it brings pleasure in some degree. The outcome of this must be to preserve the child, of whatever degree of intelligence he may be, from dry facts for which he has no use,—for to him they are not *facts*! They can only be artificial, and his interest cannot be in them to any degree; his attention must be forced and his understanding and memory of them must be superficial. Give him living facts, things he is really wanting to know about; if necessary, create or make felt the need, but by all means have the need and therefore the interest present.

This is, perhaps, an extreme statement of the case for the ordinary child without artificial requirements of modern civilization, but for the defective it is not extreme. It is the only possible means of progress for him. In his training let the facts which he gets, the habits which he forms, be living, vital ones; let everything function then and there; the sooner, the better. Let the result be pleasurable as often as may be, so as to reach interest and through that medium, the understanding.

This would mean that his arithmetic, language, geography, etc., should grow directly from his everyday life at the institution. The facts he gets in school should come as answers to questions he has been asking, or needs he has been feeling. To mean anything to him in terms of interest and understanding, these facts must form an integral part of his life as a child. The work in all the industrial fields offers vast opportunities for this vital correlation.

In summing up this whole matter I would say that the difference between idiots and other people is one of degree and not of kind. The same difference exists between the very bright among school children and the mediocre, and between the mediocre and the stupid, as exists between the idiot and the ordinary person, and in some cases the former differences are greater in degree than the latter.

Consequently we must criticize the methods of educating idiots from the same standpoint and use the same arguments either for or against, that we do in criticising the methods or curricula used in the general education of the masses. They are not special and peculiar in any other sense than the one in which the dull, stupid child is peculiar when compared with the bright, quick child. What in education is not good for the idiot is probably not good also for at least ten per cent. of school children at large.



PSYCHOLOGICAL WORK AMONG THE FEEBLE-MINDED.

BY HENRY HERBERT GODDARD, PH. D.,

DEPARTMENT OF PSYCHOLOGICAL RESEARCH, VINELAND, N. J.

Carlyle says that perhaps the most remarkable incident in modern history is George Fox's making for himself a pair of leather breeches. He finds in this outward act the expression of a mental resolution which was the beginning of religious freedom in England and in the world.

Some one more familiar with the history of institutions for the feeble-minded, must locate the event which marked the beginning of the newer view of defectives. But that there is a new view none can doubt. The leather breeches may be just completed and not much preaching done and no quakings apparent, but the movement is on. And in our day things move fast. It is true that great social changes do not move with great rapidity and yet it is quite surprising how fast they do move when the people's dollars are involved. Once let it be understood that it is cheaper to care for defectives than it is to neglect them, and institutions will multiply enormously. Again, let it be known that it is cheaper to care for a trained idiot than for an untrained one, and the demand for training will exceed the possibility of supply. Both these ideas are born and are growing rapidly. They are planted in good soil.

Public school superintendents and teachers and even public school patrons are beginning to realize that the presence of the backward and feeble-minded child in the public school is a hindrance, an expense and often a menace. These teachers and superintendents will do much to solve the problem of the feeble-minded child in the public school. But patrons will do more.

When medical inspection began in the New York schools, several thousand children were sent home the first week because they were unfit to be in school. The parents rebelled and the medical inspector was told that the work must be given up. He replied, "We can not stop; we have gone too far. If we stop now, the parents of healthy children will create a much greater disturbance."

So it will be with the feeble-minded. The question is opened

and must be solved. This association must answer the questions that the public school people will ask. No one else can answer them, and if we do not know, we must proceed to find out as soon as possible. In the near future there will be a tide of public sentiment which, if taken at the flood, will lead to great advancement for the cause of the feeble-minded.

It comes about, then, that the great problem before us in our institutions is the problem of education. It is THE PROBLEM of the mental defective. The recognition of this fact marks a new era. Before this new dawn, we had almost come to the thought that if these children were fairly comfortable as long as they lived, all was being done that could be done. It has long been realized that the problem of education involved an understanding of mind, but until recent years the science of mind has been so abstract that the would-be expert teacher got little satisfaction out of it. He could soak himself in his Sully and usually a certain intangible, subtle influence resulted which made him in ways which he felt but could not describe, a somewhat better teacher. But it was uncertain and unsatisfactory. In those days it would have been folly to have attempted to apply psychology to the problem of the feeble-minded. But times have changed for psychology as well as for other things. We now know a good many practical things about mind. We do not very well understand how to graft them on to the present educational system, but that too will come in time.

Psychology has already gone far enough in the study of normal mind to discover that there are many problems that can only be answered by a study of defective minds, minds that have slowed down, so to speak, and are moving so as to be easily observed. And so psychology needs the defective. And our institutions cannot better serve humanity than by devoting themselves to observing and recording such facts as can be used to advance the general knowledge of mind. But it is no one-sided relationship. If psychology needs the defective, vastly more does the defective need the psychologist.

What is the situation? An idiot is by derivation a peculiar person; the imbecile is the weak one; the feeble-minded is something less than normal. All these words are very innocent and yet their literal meaning expresses about all we know today. "Peculiar," "weak," "mentally feeble" children. In what way peculiar? They do not act like other

people, do not reason as well, do not have as good judgment. They have not as good control over their movements, their feelings, their will. They are at the lower end of the scale, just as the genius is at the upper end and they differ from the average man just as the genius differs, but in the opposite direction. Such being the case, our problem is that of developing to greater efficiency a machine that runs hard. To change the figure, it is to get fruit from a plant that is an unusually slow grower. Most plants ripen fruit every year; some give several crops a year, but there are also century plants. Ours is the century plant. But under favorable conditions of soil and climate the century plant may bear fruit in ten years, sometimes even in eight. In our climate, it would probably never bear fruit.

As a basis upon which to proceed to the most efficient development of our children, the first requisite is surely a knowledge of their mental condition. All are agreed that we are dealing with a fairly healthy organism,—subject to disease, of course, like any other. It lacks something which would enable it to function like the majority. The fundamental question is, does it lack so much, that it cannot develop at all? We have usually assumed that it does. But is it proven? Let us look at a few facts bearing upon the question.

We commonly turn to the brain as the seat of the defect. We even define a feeble-minded person as one who is deficient in brain cells. Anyone who realizes how little, relatively, we know even of the normal brain and its functions, must agree that we are not logically justified. Comparatively few idiot brains have been studied, and many of these by questionable methods. Even our best studies, of which the most extended are Hammarberg's and one just out by Kaes, of Hamburg (*Grosshirnrinde des Menschen*, pub. by Fischer, of Jena) are far from furnishing data sufficient to substantiate such a definition. The most we can say is that low grades are probably characterized by gross anatomical defects. In 1900, Dr. E. W. Taylor presented to this association a paper (*The Brains of Two Cases of Low Grade Idiocy—Journal of Psycho-Asthenics*, Vol. V. No. 3, PP. 68-73) describing the brains of two low grade idiots. While one of these brains showed great defect such as we should expect from his grade of intelligence, the other, although the boy was possibly even lower grade, was microscopically a perfect brain, with the exception of the

left temporal lobe "which is regarded as playing a relatively small part in psychical processes."

In high grades it is even more doubtful if they are possessed of anatomically defective brains. On the other hand there is evidence that a perfect child would become an idiot if he grew up in seclusion, without training of any kind, kept in a cage and fed as is practically often done with the feeble-minded. If the trouble is not due to gross anatomical lesions, it must be due to finer structural defects or to functional derangements. In either case, there is a possibility of improvement. At least, our first duty is to turn our attention to efforts in that direction. (I am confining my argument to the brain for the sake of simplicity. If the cause of defectiveness lies in other organs of the body, the case is even worse for our definition.) I have raised this question not because it is important for the thesis I wish to present, but because it is a matter of scientific importance that should be cleared up. Let us now assume, for the sake of argument, that careful studies will in the future prove that the above quoted definition of feeble-mindedness is correct.

Our next assumption has been that because there is a lack of brain cells, definite limits are set to the possible mental development and that these limits are those which have been determined by the results of our training in institutions devoted to the work. Again I fear the assumption is illogical. Let us examine. Nothing is clearer than that relatively large areas of the brain may be lost without any effect upon the intelligence or mental efficiency in any form. In fifty-nine cases of frontal lobe lesion only twenty-one showed any effect whatever on the mental life, according to Welt. Brain tumors show a considerable percentage of cases where the mental condition is unaffected. Other cases where mental disturbance occurred, a removal of the brain tumor results in a complete restoration of the mental faculties. Dr. Phelps declares that mental decadence never attends lesion of the right prefrontal region alone. Again we have the case of brain lesion where there is a disturbance of mental life for a time, but which is finally overcome,—cases which have given rise to the theory of vicarious functioning. Certainly it cannot be maintained that normal mentality is contingent upon having an intact brain.

It may be objected that these are cases of brains that have been

complete, have acquired their habits of functioning and that the case is different with brains deficient from the beginning. This is true, and yet there is in these cases a disturbance from the wound, the foreign growth, or the operation, which must be taken into account and which the brain of the idiot has never been subjected to. Again, it is a partial answer that these people not only recover what was lost, but are fully able to acquire new mental habits and processes. Franz found that the excision of the frontal lobes (both of them) in animals, destroyed recently formed associations but did not destroy old ones and that the animal was fully able to acquire new associations. (On the Function of the Cerebrum. The Frontal Lobes. Shepherd Ivory Franz, Ph. D., Archives of Psychology, 1907, 2, March.)

In view of these facts, are we quite safe in assuming that we know the limitations of the feeble-minded? I am sure some of you are saying, "That may be good theory, but look at the children. They are limited. They may have complete brains or there may be vicarious functioning, but the fact is they are idiots and imbeciles." They surely are! But if it should ever be proved that the cause of the condition does not lie wholly in the brain, we would be compelled to look elsewhere. Let us admit the possibility and look now.

Surely you have all been struck by the many bright, even intelligent things that come from our children, even quite low grades—the sensible things they say and do when we least expect it. Perhaps it is the psychologist's mental habit which has led me to make so much of these. I cannot see a middle-grade child act in a novel situation in an unexpected tho appropriate way without asking the question, "How does he do it?" It is not accident. No one who has seen these occurrences will believe that it is accident. If not, then we have one instance of that brain functioning truly. I told one of our children to hurry a group of children along. I said, "Tell them to fly!" Quick as thought he turned on me and said, "They haven't got no wings!"

And what shall we say of the wide differences in results obtained by different attendants? Could the best attendant get the results he does if there was not a mind capable of response to his wiser methods?

The outcome of a year's work with these children, living with them, conversing with them and their attendants, watching them at their work and their play (and I put more confidence in what is learned

in this way than in laboratory machinery), is the conviction that mind is the same in them as in us, within the limits of their experience. The differences we find are due to difference in environment and the way in which they have reacted to it, rather than to differences in the nature of the being reacted. While believing that the evidence is clear that there are more or less brain deficiencies, I yet feel that the pictures of a brain complete anatomically, but somehow clogged and functioning badly, is nearest the truth. This bad functioning may be due to neurones lacking vitality either because they are insufficiently nourished or because of some slight change in the chemical composition or through disuse. In any event, it is yet to be proved that the improvement of such an impaired neurone is impossible.

Our problem is then to get in touch with these sluggish minds. They move slowly. We have gone so fast and so far that we are absolutely out of reach of them. They are not so much out of contact with each other. They understand each other where we cannot understand them. There must be some orderliness of their thought or they would disagree all the time. Our problem is something like that which Dr. Howe solved with Laura Bridgman and Miss Sullivan with Helen Keller—a problem of establishing communication. It is different in that they had an active, alert brain, the avenues to which were closed. We have, probably, a sluggish brain the avenues to which, tho open, are perhaps not normally efficient. Here again we become conscious of how great is our ignorance in a field where careful study would bring great results.

Who knows that feeble-mindedness is not due to bad end organs, bad fibres connecting end organs with brain, bad heart or vascular system by which brain is nourished, or poor blood? This brings me to my first thesis—the problem of the feeble-minded is a psychological and educational problem. It is far within the limits of possibility (speaking loosely) that these children have more mind than we give them credit for. It is the problem of establishing communication, of making the child understand us and of our understanding him, of giving him the exercises that will develop his mind, of getting our stimulus into his brain so it will cause his brain cells to discharge.

The feeble-minded child is a foreigner who does not speak our language and hence cannot obey our commands or follow our direc-

tions. My figure suggests two counter arguments. It is because he is defective that he does not learn our language as other children do. Certainly. Perhaps I have delayed too long emphasizing that it is a better mind and not a perfect mind that I am hoping for. A feeble-minded child will always be feeble-minded, because, however much we may improve him, he is so far back that the natural processes of decline will come before he has caught up. But perhaps he may be made a little less feeble-minded than we have in the past expected. His feeble-mindedness does keep him from taking the initiative and learning to help himself. We must do this for him.

The second objection comes from the consideration that if he cannot speak our verbal language he could at least imitate our acts, and so learn to do if not to speak. It was in this very institution whose guests we are today that I had that point explained. It was Dr. Fernald's experience with the child who had never spoken in its life of six years until it saw here, in that famous closet of toys, a toy stove and cried out, "Look, mamma!" As Dr. Fernald explained to the amazed mother, the child had never spoken because it had never had any desire to speak. That is the point exactly. The feeble-mindedness shows in the weakness of the desire to do those things that a normal child is eager to do. It is the psychology of desire that we must understand. But surely if a child can be induced to speak after six years of silence, many other things can be accomplished if only we can discover how to stimulate the desire.

At first thought it might seem that we had tried faithfully to train the feeble-minded child; but we have not,—at least we have not tried all expedients. We have, indeed, established schools where we teach him pretty nearly as our public schools teach normal children. We have changed the methods slightly and we are content to progress very slowly. But as a rule we have not gotten very far away from normal methods and our school rooms look much like the public school brand.

The greatest sin of the public school is shooting over children's heads! Those teachers who do not do it escape the error only by the greatest diligence. Do you believe it is possible for us to use the methods of the public schools and get anywhere near to the level of our feeble-minded children? It is the most preposterous proposition ever

put up to thinking people. But some one says, "We get results. Our children do learn. They read and spell and do numbers and learn geography." We have been told this very day of a school where they learn to read Shakespeare. There is no doubt they do all these things. But with what result? Can they adapt themselves to their environment any better? Have we raised them a fraction of a grade? Are they any the less feeble-minded? Have we done them any good? Let me show you what we are doing. A normal, healthy child had learned and recited very nicely Longfellow's, "The Ladder of St. Augustine." He was asked to write out what he thought was meant by the stanza beginning:

"The heights by great men reached and kept
Were not attained by sudden flight;
But they, while their companions slept,
Were toiling upward in the night."

This is what he wrote:

"Great men have not made flights very suddenly. They
have slept with their companions while they were toiling
to keep the heights they had attained."

This was a normal child!

We have all laughed hundreds of times over just such absurdities. But what do they mean? Simply this: children, even feeble-minded children, can learn yards of stuff that has absolutely no meaning for them. They can give us answers that will deceive us into believing that they do understand. Test your children carefully and you will find that most of our school work with feeble-minded children is of this character. We are, therefore, not really getting into communication with them or developing any rudiments of mind that they have. Sufficient patience would accomplish just the same with a parrot, and be just as valuable.

Dr. Fernald has told us that it often happens that the boys who go out and make the best approach to a normal, useful life are often those who were absolute failures in the school classes. Why? Because they were too feeble-minded even to learn by rote, and so, being taken out of the classes, were trained industrially in a way that actually opened up new areas in their brains and gave them useful habits and associations.

But I must not discuss pedagogy with you. I only wish to show that we have not tried all possible resources to train our children. The industrial training now so generally utilized is a long step forward, and, as we all know, accomplishes wonders for many children. And for these children it bears out my thesis completely. These children have actually been raised grades above what we had expected. Do that for all children and we may well be proud of the work.

At present, even industrial training does not greatly benefit all even of those who are given the training. The cause is not far to seek. In the first place we are dealing with a sluggish brain. Reaction times are long. Our explanations must be slow, clear and oft repeated. It is difficult for our trainers to realize this and get down to the level of the children. With normal children even the dumbest can see a board after he sees it done, hence it is hard to realize that a feeble-minded child cannot do even that. He often comprehends not even the simplest movement. And until he does comprehend he has no interest, no desire, and hence will not try. I have seen a child, told to mark the A's in a page of printers' pi, show absolutely no interest and appear to be incapable of doing so simple an act as that. But by persistence and patiently marking line after line it gradually dawned on him and he took the pencil and marked an average number in a given time. Had I stopped a little before I did I should have thought him very low grade and incapable of marking A's. Another boy was seated at the automatograph. He would not try to hold it still. I explained and illustrated, held his hand, and threatened him when he moved. No use. He could not be made to do it. I put my hand on his and held it still for five long minutes. At last a gleam came into his eyes. I removed my hand and he held his still for a minute, making a good tracing. He had at last comprehended what was wanted, found he could do it, and immediately rose in my estimation and in his own.

Whether the joy of discovering that he can do something and the consciousness of power that comes from creating is enough to interest all children in whatever we set them to do, I am not quite sure. It is a question that must be tested. But this is certain, many a child fails at the industrial work we give him solely because he is not interested. Whether this is always because he is not taught with sufficient patience or whether there is some innate or acquired tendency that deter-

mines his interest, I repeat I am not sure. My point is that we have not done our full duty until we have exhausted all possible means to find something that the child is interested in doing.

Further, the occupations should be changed oftener than is sometimes done. We must not forget that once a process is thoroughly learned its training value ceases. To keep a child longer at the work may be to make him a good artisan, but it does not make him a good thinker.

And so I repeat, the problem is educational and psychological. We must devise educational methods based on sound psychology. Two things make it hard to realize that we have gained anything by shifting our problem to psychology. The first, is the poor account psychology has given of itself in the past; the second, is that psychology seems to be the very thing that has closed the door to all progress with the feeble-minded. We have been told that they have no judgment, no reason, no will, etc., and surely without these they can never progress. The answer to both these objections is made by noting that they refer to the now discarded faculty psychology. As long as it was assumed that judgment was a faculty, an entity, a something within the brain that did something for us, nothing of value could result. And when we had an individual who had none of this faculty we had a hopeless case. It is precisely like the history of hypnotism. In Mesmer's time, it was a "power" that only a few people possessed. If you had it not, you could never attain it. And the principle was of very little practical value. But when Braid, and Charcot, and Bernheim analyzed the "power" and showed that it was really the normal process of suggestion, its usefulness became great.

To say that a feeble-minded child has no judgment is meaningless, useless or false. As a faculty, it is meaningless; in the sense of good judgment, it is useless because the same might be said of anyone in any field outside of his experience. Probably not one of us would have good judgment about building the Panama canal. If the expression means that the child has not the power of forming a judgment, it is false. It would be difficult to prove that the lower grade idiot in our institutions does not at times form a judgment while all but the lowest are forming judgments all the time. The same thing is true in other lines. You and I have no will power along lines where we have

no experience or habit of action. And so it comes about that modern psychology analyzes mental processes into elements most of which are found to be present even in fairly low-grade idiots. The elements are there. Can they be made to combine into the relatively complex mental processes? Who knows?

If there is even a little truth in the foregoing views it outlines our course in the study of the feeble-minded with some definiteness. First, we should settle the question of growth. If the children in all our institutions are weighed and measured and the results grouped by ages in one tabulation, we can soon draw the curve of growth for mental defectives and have a clear comparison with normal children. Second, the question of anatomy, especially of the brain. Is there a brain condition characteristic of at least the imbecile and idiot? A death ought never to occur without a full and complete autopsy. If this is impossible, let us have as many autopsies as possible. These should be performed with the greatest care and scientific accuracy in every detail. Every organ should be examined *in situ* and separately, and a complete record made. The brain should be injected with formalin before removal, according to the method practiced at the New York Pathological Institute. When removed, the brain should be preserved for study by the most refined methods known. Not only the gross anatomy, but its finer structure, medulation, (Flechsig's methods), cell structure (Missl) and whatever the most up-to-date neurology can suggest as of possible value. Only in this way can we ever hope to solve the intricate problems involved in this phase of the work. An autopsy thus conducted is justified the moment it is completed. An autopsy which simply demonstrates a few anatomical points or takes a brain only to let it spoil cannot be justified except when the cause of death is unknown, or there are no friends who have the slightest interest in the body.

Next, the metabolic changes during life should be studied—that work that Dr. Cowles instituted at Mc Lean, and Dr. Munson in the study of epilepsy at the Craig colony. The findings in both these cases should be carefully correlated with the mental condition of the child. For this purpose, the most careful analysis of the child's mind should be made by a competent psychologist. This is what we have so far lacked, a fact that is beginning to be recognized by our best neuropatho-

logists. Dr. Mills confesses to the shortcomings of his brother alienists in these words, "One of the greatest difficulties of proving the localization of the highest intellectual processes has arisen from the fact that physicians, even those trained in psychiatry and neurology, frequently fail to note the mental symptoms carefully, or describe them in such an uncertain manner as to make the records of little value."

Dr. Franz writes (op cit. p. 24): "From a psychological standpoint, what is lacking in all the accounts is a careful analysis of the mental condition. Apathetic, dull, stolid, irritable, restless, nervous, deficient memory, slow comprehension, are general terms for conditions which for scientific purposes and in the present state of psychology, the observer could and should try to describe more carefully. Any one of these terms may be descriptive of deficient, or wandering attention; some are indicative of a mild degree of delirium. It is of prime importance that every case should be examined from a psychological standpoint if psychological inferences are to be drawn."

No less authorities than Schaefer and Horsley can do no better than to describe the mental condition of a monkey whose temporal lobes had been excised, as one of "semi-idiotcy," which Franz justly criticises as follows: "The term "semi-idiotcy" used by Schaefer does not mean anything from a psychological standpoint and particularly since idiotcy in children is difficult to diagnose from simple observation; it is impossible to determine such a condition in dogs or monkeys."

This is all profoundly true. We must have the mental attainments of our children recorded in carefully chosen, accurate language. The natural expressions and manifestations of mind must be supplemented by suitable tests. Much can be gained by group studies of various psychic processes, but while this is being done we ought not to neglect the minute analysis of each individual child's consciousness by all available and devisable means. So that whenever an autopsy occurs and the brain is before us, we can carefully correlate the two. This is the sort of work that is proving so valuable in insanity, and there is no reason why it should not be equally valuable in feeble-mindedness.

I shall never forget the impression made upon me when Dr. Adolf Meyer took us into his laboratory at Worcester and taking a brain from a jar said, "this is the brain of the patient you saw last spring. You recall the symptoms. We shall now examine this, and probably

shall find such and such conditions"—describing very minutely hemorrhage, degenerate fibres and cells. His prediction was verified at every point!

I confidently look forward to the day when we shall do the same for the feeble-minded. And on the living child we shall say after careful examination of his condition, "He has defects of such a character in such cell-groups. Such and such exercises, such and such foods will produce the best results." No longer guess-work, but treatment with scientific precision.

We have begun work at Vineland along these lines. It will take years to realize our ideal, years of hard and painstaking work. But we can wait and work and we hope that the day is not far distant when every other institution of the kind will see its way clear to open its own department and work with us for the solution of these great problems.



TRAINING SCHOOL FOR ATTENDANTS FOR THE
FEEBLE-MINDED.

BY CHARLES BERNSTEIN, M. D., ROME, N. Y.

I have seen fit to designate the product of our work in training pupil-employees in our institution for feeble-minded, trained attendants rather than trained nurses, not because I do not look upon or appreciate their work as that of a nurse in their special line, but rather, partially, because of the fact that in some sections of this country, as in New York state, only those are legally recognized as nurses who have the degree R. N., which degree can only be given by nurses' training schools connected with the larger general hospitals for acute diseases, and accepted by the state department of education as being capable of, and maintaining, subject to frequent inspection, a proper graded course in training in the care of the acutely ill; and more especially because of the fact that we do not wish to turn out as our product an addition to the already too large number of imposters who now pose before the public as well-trained nurses, whereas, they are not in fact even well-trained, or competent attendants.

I am convinced that nowhere is there a greater opportunity presented for the thorough training of men and women in the care of the physically infirm—as paralytics, bed-ridden cases, etc., as well as in the care of the feeble-minded—than in connection with the institutional care of the custodial class of feeble-minded. Here it is that we meet with all forms of physical defect, and in no other institution is the variety of cases or conditions so great.

The two great demands on the part of the general public today are, as I see it, good nurses to assist in the care of the acutely ill, and not a poor nurse but a good attendant to assist in the care of the chronically enfeebled, be the enfeeblement physical or mental.

The state department of education in our state endorses this movement as follows:

"Your outline of a course in training for attendants, and our inspector's report are before us, and we are convinced that the plan you have in mind will be helpful educationally and will prove of material advantage, and we shall recommend to the board of regents that

you be granted a limited charter for the carrying on of this work."

Following is the proposed name of the department and an outline of the work: "Rome State Custodial Asylum Training School for Attendants for Men and women. For training attendants in the physical care of the feeble-minded and the physically infirm, and also in the manual, mental, moral and industrial training of the feeble-minded."

The Rome State Custodial Asylum is entirely owned and maintained by the state of New York for the care and treatment of feeble-minded and idiotic persons, the following classes being cared for: All of both sexes below the age of seven; all of both sexes between the ages of seven and fourteen who are physically infirm; (the able-bodied feeble-minded children, who can use language, between the ages of seven and fourteen, are sent to the Syracuse school for feeble-minded) and cases past the age of fourteen, both sexes, with no further age-limit. The asylum with its population of 750 (soon to be 1000) cases, cares for many children, many physically infirm, as cripples, paralytics and bed-ridden cases; many of the feeble-minded juvenile delinquent class, and many adults among whom are a considerable number of the state reformatory classes.

The course of training shall cover two years of fifty-two weeks each. The first year shall be devoted to the training of attendants in all that pertains to the physical care of the physically infirm and mentally enfeebled, and the second year shall be devoted to the training of attendants in the physical, mental, moral and industrial training of the feeble-minded.

For entrance to the school, the applicant shall be twenty-one years of age and come recommended by two responsible persons who have known the applicant for at least two years, in addition to which the applicant shall file an application, the statements in which are to be sworn to as follows:

DIRECTIONS:—1. All the statements in the application are to be made under oath.

2. Every false statement knowingly made by the applicant in this paper, or connived at by him in any certificate which may accompany the same, is good cause for removal during probation. All appointments are first made for the probationary term of one month.

3. The application paper must be filled by the applicant in his own handwriting.

Desiring to enter the civil service of the state of New York as a pupil-attendant in the Rome State Custodial Asylum at Rome, N. Y., I make this application and declare the following to be the facts concerning myself, viz:

- 1. My full name is
- 2. My postoffice address is
- 3. My legal residence is
- 4. To the best of my knowledge and belief, I was born at
.....on the day of19 . I am therefore.....years of age.
- 5. I am a citizen of the State of(N. B.—If a natu-
ralized citizen give date of naturalization)
- 6. I have been a resident of the state ofsince.....
- 7. My present occupation or business is.....
- 8. (a) Are you physically capable of a full charge of the duties
of the position to which you are seeking employment?...
(b) Have you any defect of sight in either eye?.....(If so,
describe it)
(c) Have you any defect of voice or speech?(If so,
describe it)
(d) Have you any defect of limb?(If so, describe it).....
(e) Have you any defect of hearing?.....(If so, describe
it)....
(f) Have you any chronic disease?.....(If so, describe
it)
(g) What is your height measured in your bare feet?
feet inches.
(h) What is your weight, in ordinary clothing, without over-
coat or hat?..... pounds.

9. My principal occupation and my residence during each of the last five calendar years were as follows:

RESIDENCE,	OCCUPATION,
190.....
190.....
190.....
190.....
190.....

10. Were you ever examined for the New York state civil service? If so, where, when, and for what position?.....

11. Were you ever in the New York state civil service?....
If so, state what service and the cause of your leaving it

12. Have you had any experience in hospital or asylum work?...

If so, in what institution?In what capacity?

13. Have you been in any state, city, or other public department, either as an employee or as an inmate of any institution?.....

If so, give full particulars

14. What different kinds of business or trades are you familiar with?

15. By whom have you been employed during the last five years?

16. Have any of your former employers ever discharged you, and if so, for what reason?

17. Do you use intoxicating beverages, and if so, to what extent?

18. Describe your education (state school, academy or college, and length of course).....

19. Were you in the military or naval service of the United States in the late war?.....If so, give name of organization or vessel to which attached, date of enlistment or commission, position or rank, date and cause of discharge from the service, and any physical disability incurred in the service

Dated

(Signature of applicant).....

STATE OF NEW YORK.

} SS.

County of

On this.....day of.....said.....
having been duly sworn (or affirmed) before me, stated that he had read the printed as well as the written parts of the foregoing application and that to the best of his knowledge and belief, the several statements contained therein are true.

(Signature of officer).....

(Official title)

PHYSICIAN'S CERTIFICATE:—I hereby certify that I have examined Mr.....the above-named applicant, and believe him to be physically and mentally capable of performing the duties of an.....
His hearing is.....his sight is.....Remarks:.....

(Signature)

NOTE.—The physician's certificate may be omitted in the discretion of the superintendent of the institution or department.

The applicant shall be given a preliminary entrance examination in writing from dictation, spelling, punctuation and the fundamental operations of arithmetic.

The applicants shall spend at least one month (four weeks) on probation in the service of the asylum before beginning the prescribed course in training, during which time they may become familiar with

the work and the officers of the school may judge the probationer's aptitude for the work. During this probation period one lecture will be given on the character and objects of the asylum and the rules and regulations governing the asylum, and the attendants in their relation to the asylum, its officers, employees, inmates and to the general public.

On entering the service of the asylum to pursue the course in training, every applicant shall continue as a probationer four weeks or more until the beginning of the next regular term of training, at which time the probationer, if accepted, becomes a pupil-attendant, and shall be assigned to the regular prescribed course of training and shall furnish and wear a uniform.

The first year shall be devoted to training the pupil-attendant in the physical care of the inmates, and the members of the junior class shall be regularly employed on the wards in the various domestic and industrial departments of the asylum, and for their practical course shall be under the direct training of those regularly in charge of the various departments to which the pupil-attendants are assigned.

The hours of duty shall be from 6:15, A. M., to 6, P. M., and from 6:15, A. M., to 7:30, P. M., on alternating days with one hour off duty every afternoon. Compensation, \$16 per month.

The year shall be divided into three terms of sixteen weeks each as follows:

First term, 16 weeks	{	Probation..... 4 weeks
		Care of household..... 12 "
Second term, 16 weeks	{	Care of able-bodied patients 8 "
		Care of the physically infirm 8 "
Third term, 16 weeks	{	Hospital, day..... 3 "
		Hospital, night..... 1 "
		Night duty, general..... 2 "
		Kitchen, general cooking... 2 "
		Kitchen, special cooking.... 1 "
		Dining room..... 1 "
		Laundry..... 2 "
		Sewing room..... 2 "
		Care of tubercular cases..... 2 "
Final test, 2 weeks	{	Conductor of visitors..... 1 "
		Admission officer..... 1 "
Vacation.....		2 "
Total.....		52 weeks

FIRST TERM, SIXTEEN WEEKS.

PROBATION, FOUR WEEKS—Practical course—General helper about all departments of the asylum, the probationers having an opportunity for observing all phases of the work.

Theoretical course—One lecture each week. Lecture 1, an outline of what we hope to accomplish in the training of attendants for the care of feeble-minded and the physically infirm; a review of the rules and regulations governing the employees in the asylum and their application to the institutional care of feeble-minded. Lecture 2, anatomy, bones, character of, description of. Lecture 3, anatomy, muscles and other tissues, including blood. Lecture 4, anatomy, internal organs.

CARE OF HOUSEHOLD, TWELVE WEEKS—Practical course—Two weeks each on wards with the medium grade, high grade, disturbed, bodily infirm and children, during which time the pupil-attendants shall be taught and have demonstrated to them general housework, as sweeping, making beds, changing bedding, cleaning toilet fixtures and tile floors, polishing floors, washing painted and varnished walls and wood-work; cleaning and polishing brass and nickel fixtures, washing windows, care of brooms, pails, cloths and mop; looking out for needed repairs to building and heating, lighting and plumbing fixtures, also disinfection and fumigation.

Theoretical course—One lecture each two weeks. Lecture 5, cleanliness and reasons therefor; character of surface to be cleaned as, painted, varnished, waxed, bare wood, tile, plastered, enameled, etc.; use of hot and cold water and soap, care of cleaning utensils as regards washing, exposure to air and sunlight and storing away in dark, unventilated places; scouring and polishing various metals and fixtures; watching for needed repairs; reasons for the use of various dressings for wood and metals, as oil, crack-filler, wax, paint and varnish; care of hangings and furniture, dusting, cleaning and disinfecting. Lecture 6, physics, nature of substances, elements, physical law, etc. Lecture 7, light, heat, cold, electricity, sound. Lecture 8, physical and chemical changes, combustion, putrefaction, etc. Lecture 9, physiology, blood and circulation. Lecture 10, respiration and excretion. Lecture 11, foods and digestion. Lecture 12, household hygiene.

SECOND TERM, SIXTEEN WEEKS.

CARE OF ABLE-BODIED PATIENTS, EIGHT WEEKS—Practical course—The pupil-attendant shall work two weeks each on wards with medium grade inmates, low grade inmates, high grade inmates and the disturbed class, during which time the attendants shall be taught and have demonstrated to them the proper bodily care of the inmates as regards getting patients up in the morning, dressing them and seeing that they are properly dressed; throwing open beds to air, seeing that sleeping rooms have proper morning ventilation and that patients have their proper morning toilet; care of towels, assisting in feeding and serving patients, training patients to eat orderly, directing patients in cleaning teeth following meals, directing patients in doing housework, bathing patients and changing clothing; care of wards, sorting and folding clothing and placing same on shelves or otherwise in clothes-room; marking and mending clothing, care of dress-up clothing, going with patients to Sunday school, chapel, entertainments; taking working patients to various domestic and industrial departments, taking patients out for exercise; receiving new patients on wards, first bath, inspection of patients for injuries, scars, physical deformities and vermin; inspection of, and care and sterilization of clothing; treatment for various forms of vermin; care of patients' private articles and valuables; attitude toward friends when receiving patients, and also toward friends and visitors when visiting the patients and the asylum; attitude toward patient under various conditions; observation of the daily life of patients and making notes on same; keeping records, discipline, etc.

Theoretical course—One lecture each week as follows: Lecture 1, nature of feeble-mindedness, principal symptoms and characteristics, causative factors, temperament, possibilities and limitations; classifications and description of classes, etc. Lecture 2, the physical human body as a whole. Lecture 3, bacteriology, disinfection, fumigation and sterilization. Lecture 4, exercise. Lecture 5, entertainment, diversion and discipline. Lecture 6, physical abnormalities. Lecture 7, clothing. Lecture 8, personal hygiene.

CARE OF PHYSICALLY INFIRM, EIGHT WEEKS—Practical course—The pupil-attendants shall work four weeks with children and four weeks with paralytics, and shall be taught and have demonstrated to them the feeding of children, inciting children to natural play, proper

hours of rest, orderly deportment, etc.; also how to move cripples or paralytics about in bed, how to set them up, to change and make the bed while patient occupies it; proper clothing for bed-ridden cases; how to serve meals to bed-ridden cases, character of food; how to keep patients cleanly; how to prevent bed sores; use of pads and cushions, use of rubber sheets and rubber protectives of various kinds, etc.

Theoretical course—One lecture each week, as follows: Lecture 9, nature of children and their requirements. Lecture 10, food variations required for children, cripples and paralytics. Lecture 11, exercise and development, rest and sleep. Lecture 12, habits, nature of and the necessity for training. Lecture 13, nature of paralytics. Lecture 14, food requirements for paralytics. Lecture 15, movements and exercise for paralytics. Lecture 16, humanitarian consideration for these defective classes and discipline.

THIRD TERM, SIXTEEN WEEKS.

Practical course—Demonstrations and experience as follows: Hospital, four weeks, one week of which shall be night duty with the acutely ill, laying out at least one corpse. Night duty, general, two weeks. One week with the medium grade cases; one week with disturbed cases and one week with paralytics. Kitchen, three weeks—Two weeks training and general cooking, and one week in special cooking, as dishes for the sick, infirm, paralytics, etc. Dining room, one week, to gain experience in the serving of food in large masses, the handling of dishes, table linen, etc. Laundry, two weeks, to gain experience in the handling and washing of soiled clothing and various methods of sterilizing and cleaning various sorts of clothing, as colored and uncolored clothing, cotton, woolen and mixed goods, linens, etc. Sewing room, two weeks, to gain experience in the sort of goods used for making clothing serviceable for the feeble-minded and in the cutting fitting and making of such clothing. Care of tubercular cases, two weeks, for experience in the care of infectious diseases and the necessity for special precaution for the protection of self and others and how to properly care for the tubercular and the various stages of the disease.

Theoretical course—One lecture each two weeks, as follows: Lecture 1, nature of sickness in general. Lecture 2, nature of, and

necessity for observing and recording symptoms. Lecture 3, what night duty should accomplish. Lecture 4, cooking, nature of process and what it accomplishes. Lecture 5, laundry, nature of, what it accomplishes, how. Lecture 6, tuberculosis, nature of, care and treatment. Lecture 7, duties of attendants toward various classes of visitors. Lecture 8, duties of attendant in admitting a case and proper attitude toward friends and officials who accompany the case.

FINAL TEST, TWO WEEKS—Practical course—The pupil-attendant shall be stationed in the general office of the asylum to act as conducting officer receiving and conducting all visitors to inmates and patients, as well as general visitors to the asylum; seeing that all visitors are considerately and courteously received and their various requests duly complied with in conformity with the rules and regulations of the asylum governing same. During this time the pupil-attendant shall also receive all newly admitted cases under the direction of a medical officer and carry out such medical officer's directions in receiving, taking history of, classifying, and assigning such patients to the reception ward; he shall also carry out all regular and special directions regarding the care and treatment on admission of such newly admitted cases, such as care and sterilization of all clothing, inspection for vermin, care of valuables, initial bath, etc.

SECOND YEAR.

The second year shall be devoted to the training of inmates by pupil-attendants, and the members of the senior class shall be regularly employed in training inmates on the various wards, in schoolrooms and in the various domestic and industrial departments of the asylum, under the direct charge of regular instructors. Compensation, \$15 per month.

The hours of duty shall vary between 7 and 11, A. M., and between 1 and 5, P. M., averaging about seven hours per day, actual duty in the training of inmates, with evening duty from one to two hours four evenings of the week.

The year shall be divided into three terms of 16 weeks each as follows:

First term, physical training,	{	with able-bodied12 weeks
16 weeks		with bodily infirm.....4 “

Second term, intellectual training,	{	with able-bodied.....	8	"
16 weeks		with bodily infirm ...	8	"
Third term, industrial training,	{	with able-bodied ...	12	"
16 weeks		with bodily infirm ...	4	"
Final test, admitting, classifying and directing the care and training of all newly admitted cases			2	"
Discipline officer			2	"
Total.....			52	weeks.

FIRST TERM, SIXTEEN WEEKS.

PHYSICAL TRAINING, ABLE-BODIED—Practical course—Twelve weeks with able-bodied inmates, during which time the pupil-attendants shall train the inmates in systematic exercises, as drilling, calisthenics, walking, sloyd and special exercises to correct deformities and faulty physiological functions, as follows:

From 8 to 9, A. M., small groups for exercise taken out of doors whenever possible.

" 9 to 11, A. M., classes in calisthenics.

" 1 to 3, P. M., classes in sloyd.

" 3 to 5, P. M., classes in exercise.

This work will be entirely with the low and medium grade inmates.

Theoretical course—One lecture each two weeks as follows: Lecture 1, anatomy and physiology of the nervous system. Lecture 2, outline of the theories of manual training. Lecture 3, needs for systematic exercise. Lecture 4, theories of calisthenics. Lecture 5, theories of kindergarten. Lecture 6, theories of sloyd.

PHYSICAL TRAINING, BODILY INFIRM—Practical course—Four weeks with the physically infirm during which time special individual exercises and physical training shall be given all physically deformed cripples and paralytic cases, aiming to so far as possible correct all such deformities and faulty physiological functions through active and passive motion and massage; to develop atrophied and paretic muscles and to break up adhesion of tendons and ankylosis of joints. Also during this time the pupil-attendants shall assist at special surgical and orthopedic operations on this class of patients.

The work will be wholly individual giving the patient general exer-

cise to as great an extent as possible both active and passive, and endeavoring thereby to correct deformities and build up the general health of the patient, and also to use the patients' surplus animal energy in this way, and thus render them sufficiently fatigued so that they will rest well at night, and in this way at least keep the patient from becoming more dependent, as follows: From 8 to 11, A. M., and 1 to 4, P. M.

Theoretical course—One lecture each two weeks. Lecture 7, nature of paralysis and causative factors. Lecture 8, various theories of special exercise.

SECOND TERM, SIXTEEN WEEKS.

INTELLECTUAL TRAINING—Practical course—Eight weeks with the able-bodied inmates and eight weeks with the physically infirm, during which time the pupil-attendants shall train the inmates in articulation, use and understanding of language, kindergarten and primary work; also train them in entertainments, singing, recitations, Sunday school, etc., and direct them while at chapel, and in story reading; social evenings for the inmates, etc.

From 8 to 9, A. M., articulation and use of language.

“ 9 to 11, A. M., kindergarten.

“ 1 to 3, P. M., entertainments.

“ 7 to 8, P. M., Monday evenings, singing school.

“ 7 to 9, P. M., Wednesday evenings, social evening and games.

“ 7 to 8, P. M., Saturday evenings, story reading.

“ 8 to 10, P. M., Friday evenings, weekly entertainments.

Theoretical course—One lecture each two weeks. Lecture 1, theories of brain and nervous development. Lecture 2, theories of teaching articulation. Lecture 3, theories of teaching use and understanding of language. Lecture 4, theories of primary work. Lecture 5, theories of entertainments. Lecture 6, theories of discipline. Lecture 7, the power of suggestion. Lecture 8, possibilities and limitations in training feeble-minded.

THIRD TERM, SIXTEEN WEEKS.

DOMESTIC AND INDUSTRIAL TRAINING, ABLE-BODIED—Practical course—Twelve weeks with able-bodied inmates during which time the

pupil-attendants shall teach the inmates to sew, pare vegetables, wash dishes, wash clothing, iron, sweep, scrub and clean; also prepare the ground to plant seeds, hoe, pull weeds, shovel and wheel earth, grade lawns, mow and rake lawns, pick stone, cut wood, shovel snow, etc., as follows, for males and females:

From 7 to 9, A. M., ward work.

" 9 to 11, A. M., kitchen work.

" 1 to 2, P. M., dining-room work.

" 2 to 4, P. M., laundry work.

For male inmates only, as follows: Lawns, farm and garden, two days each week, from 8 to 11, A. M., and 1 to 4, P. M.

Four weeks with physically infirm, during which time the work will be wholly with individual inmates attempting, so far as possible, to train these physically infirm inmates to do some work which will serve to keep them occupied and thus more contented, while at the same time they will thus be contributing something toward their own support.

Theoretical course—One lecture each four weeks. Lecture 1, the human body as a whole. Lecture 2, needs of constant occupation and diversion. Lecture 3, one general post-mortem demonstration. Lecture 4, one special post-mortem demonstration.

FINAL TEST, FOUR WEEKS—Practical course—Two weeks as classification and training officer during which time the pupil-attendant shall take all newly admitted cases from the reception wards the day following admission and direct the final disposition of the case to its proper ward and there direct the care and training of such cases daily during the interval of this two weeks service, having full charge and control of all training of such cases during such interval.

Two weeks as discipline officer during which time the pupil-attendant shall direct and supervise the discipline of all inmates in the respective department to which such pupil-attendant may be assigned in conformity with rules and regulations and general, or special directions governing such discipline; he shall also maintain an inspection of all other pupil-attendants connected with such department, and report to the superintendent daily the results of all such observation.

There shall be actual demonstrations before each pupil-attendant under every heading designated or suggested under the headings,

"practical training," during each term, by the heads of the various departments in which such practical training is received, and as many demonstrations as possible in connection with every theoretical lecture.

All pupil-attendants shall have every second, or alternating Saturday afternoon, Saturday night and all day Sunday until 10, P. M., Sunday night, off duty, and shall be allowed two weeks vacation in each year, during all of which time the regular compensation shall continue. Reasonable sick-time shall also be allowed with no deduction of compensation connected therewith.



THE MONGOLIAN TYPE.

BY J. C. CARSON, M. D., SYRACUSE, N. Y.

Quite a percentage of the children admitted to the Syracuse State Institution each year belong to what is known as the Mongolian type. This type or class of the feeble-minded receives its name from a certain cast of eyes somewhat resembling the Chinese. By those who believe in atavism, the Mongolian imbecile is considered a manifestation of the reversion of our race to the Mongolian.

The feeble-minded of this type also possess in varying degrees other characteristic features: wide distances between the inner corners of the eyes, slightly dwarfed statures, small, obtusely rounded heads, rough and furrowed tongues, short, stubby noses, toes and fingers. The voice is usually harsh and husky; the skin is coarse, the epidermis presenting a rough sensation and often a furfuraceous appearance. Commonly, Mongolian imbecile children are fond of sitting in the oriental position i. e., with the legs crossed below the knees. In disposition they are generally active, playful and imitative; they laugh easily and heartily at the acts of others and will themselves try to be funny or humorous. Occasionally there is one who is epileptic. They are especially subject to catarrhal troubles and to sore eyes, as conjunctivitis, blepharitis, and ophthalmia. They stand the summer much better than the winter seasons; in the winter they are apt to have frequent colds and attacks of bronchitis.

But few of them survive beyond the twenty-first year and seldom one beyond the twenty-fifth year. Unless taken away by some acute disease in early life, they are likely to succumb either to pneumonia or pulmonary tuberculosis before reaching maturity. The oldest persons I have seen among Mongolian imbeciles were a woman who died at fifty-four and a man who died at thirty-seven. Children of this type bear certain marked facial resemblances one to another; especially is this noticeable in the peculiar almond-shaped appearance of the eyes. To one unacquainted with the type upon seeing two or more together, the first thought is that of close relationship, as children of the same family. Another thing I have noticed is a disposition to play or associate together when two or more are placed in a class with other feeble-minded children.

This type is not always distinctly marked, for in exceptional cases the peculiar features are present in so slight a degree that a diagnosis may be a matter of some doubt, but when the typical features are observed by those familiar with them, a diagnosis is made at sight. Oftentimes the features are so marked that we are frequently able to predict a correct diagnosis simply from the written description given by parents upon our blanks and before the child comes under our observation.

Of all the cases of Mongolianism admitted to this institution not one, as the feeble-minded are classified, has been an idiot, the nearest approach in a single instance being that of an idio-imbecile. All others have been imbeciles with quite varying degrees of intelligence but none above the middle grade.

The cause of the type is not very definitely known but whatever it is those who belong to it are quite numerous. Of seventy-three admissions during the past year, six of the number, or over eight and one-fifth, per cent., were of the Mongolian type. It was noted some years ago that Mongolians are apt to be last-born children. This has been questioned by a recent American author (Barr) who makes the surprising statement that he has found it so in but one case. With that statement our statistics are greatly at variance. During the twenty-two years of my superintendency at this institution, seventy-two children of the Mongolian type, forty-one boys and thirty-one girls, have been admitted. Of this number, forty-two, or over fifty-eight per cent., were the last born; sixteen, or less than twenty-two per cent., intermediate; and fourteen, or nearly twenty per cent., were first-born children. Another remarkable fact discovered in connection with the family histories in these seventy-two cases is that there was not a single instance of another feeble-minded child in any one of the families. This we consider very strong evidence that Mongolianism must be due, at least usually, to other than hereditary influences. So large a number as is shown by the statistics being last born, it would seem as if some inertia or lack of the essential vitality in the procreating powers of the mother during the last years of the child-bearing period might safely be considered a cause of imbecility of the Mongolian type. If so, it is possible for the same cause to operate in the reproductive effort at other times and especially, as it also appears by the statistics,

in the first-born, but to a milder extent than in the case of the last-born.

A further examination of the table shows that a total of 419 children were born in the seventy-two families represented, or an average of five and five-sixths to a family. As previously stated, in these seventy-two families, seventy-two children were feeble-minded—all Mongolian and not a single one of any other type of feeble-mindedness. Of the 419 children, 144 were first and last born, and of the first and last born, fifty-six were children of the Mongolian type, or thirty-nine per cent. Two hundred and seventy-five children were intermediate and of this number fourteen were Mongolian imbeciles, or five per cent. Again, in the regular order of admissions made during the years '86, '87, and '88, a comparison taken of seventy-two families in which other forms of feeble-mindedness appeared, shows a record 343 births or an average of four and three-fourths to a family. Among these 343 children the records show ninety-one feeble-minded ones, or over 26 per cent. In all of these families there were two or more feeble-minded children and in two families of four and five children each, all were feeble-minded. My deduction from these figures is, therefore, in short, that Mongolianism is due to some cause other than heredity; that a mother seldom, if ever, bears more than one feeble-minded child when the type of that one is Mongolian; that the Mongolian feeble-minded are apt to be last-born children, a large percentage also being first-born; and that, in families of children where the Mongolian type appears, the mothers show a more prolific average than the mothers in other forms of feeble-mindedness.

The table which follows presents the statistics from which the above percentages are obtained:

Case No.	No. of children in family	Mongolian children		
		First Birth No.	Intermediate Birth No.	Last Birth No.
1	7			7
2	7			7
3	6	1		
4	9	1		
5	7	1		
6	9			9

7	5	4
8	9	8
9	12	10
10	14	14
11	5	5
12	2	1
13	6	6
14	5	1
15	6	5
16	10	10
17	2	2
18	6	6
19	2	2
20	3	3
21	12	7
22	5	2
23	3	3
24	10	10
25	6	6
26	6	4
27	4	4
28	6	6
29	15	13
30	3	2
31	3	3
32	12	12
33	4	4
34	4	4
35	2	1
36	9	1
37	5	2
38	5	5
39	2	1
40	8	8
41	2	2
42	5	4

43	2	2
44	3	3
45	6	3
46	7	7
47	5	5
48	6	6
49	4	4
50	4	2
51	6	6
52	6	3
53	5	5
54	12	12
55	10	10
56	6	6
57	10	9
58	4	4
59	8	8
60	2	1
61	3	1
62	4	4
63	2	1
64	3	1
65	4	1
66	3	2
67	11	11
68	5	5
69	3	1
70	5	5
71	4	4
72	3	3
Totals	419	14 16 42

SOME SPECIAL TYPES.

BY MISS FANNIE COMPTON, ST. LOUIS, MO.

The training of comparatively few children has taught me that, of those things with which I thought myself familiar, with which I thought myself the best acquainted, I knew nothing; and that "those ideas which appeared the most advantageous were found, when brought into practice, to be altogether inapplicable." Especially in the matter of discipline did I have much to learn and unlearn. A standard of discipline given by an anonymous writer has been of great value to me. It is this: "Discipline, like the bridle in the hand of a good rider, should exercise its influence without appearing to do so; should be ever active, both as a support and as a restraint, yet seem to lie easily in hand. It must be always ready to check or to pull up, as occasion may require; and only when the horse is a runaway should the action of the curb be perceptible."

Of the twenty-six children that have been in our school the most noteworthy are:

- 5 spastics paralytics
- 3 mild cretins
- 1 mild Mongolian
- 1 hydrocephalic

Others were nervous, backward or simply, dull. I shall refer to but four cases specifically:

Type I.

Hydrocephalic boy 11 years of age, robust health, well-developed. Weight, 104 lbs.; height, 4 ft. 11 in. Head measurements were as follows:

Circumference.....	68. 4 mil.
Transverse (tape measure).....	40. 3 "
Transverse (caliper meas.).....	18. 2 "
Longitudinal (tape).....	47. 8 "
Longitudinal (caliper).....	24. "
Girth of neck.....	35. "
Chest in repose.....	79. 8 "
Waist	77. "

Lower limbs well developed. After three years of training, which included much physical work, the measurements and weight were: weight, 116 lbs.; height, 5 ft. 3 in.

Head measurements:

Circumference.....	66. 3 mil.
Transverse (tape)	39. 5 "
Transverse (caliper).....	18. "
Longitudinal (tape).....	45. 6 "
Longitudinal (caliper)	24. "
Girth of neck.....	35. 4 "
Chest in repose.....	81. 2 "

This case was congenital. An only child. Instruments used at birth. Ordinary animation at birth, with no convulsions after. Head grew abnormal from birth, which made him helpless. Did not walk until three years old. Father twenty-seven, and mother, twenty-four years old, when G. was born. Mother undersized, weighing 82 lbs., but she was well formed. Mother's mind weak. Both maternal grandparents became violently insane at middle life; had been "peculiar" and subject to excessive outbursts of temper for many years. An uncle of the mother is feeble-minded. Antecedents of paternal side of house were all sound in body and mind. G.'s sight and hearing good. Slightly cross-eyed at times. Teeth good. Mouth inclined to be partly open. Began to talk at two years of age. Drawls his words, otherwise his speech is normal. Inclined to be left-handed. Hands tremble at least provocation. Rather gluttonous. Indolent, except when engaged in outdoor sports. Trustful, truthful, obedient, affectionate, heedless of danger, sleeps soundly, fond of music.

While with us, G. made good progress along many lines. He learned to read and spell, using the second reader and the newspapers for textbooks when he left us. In number work he was uncommonly clever, being in fractions. Could tell time perfectly including railroad time. In coins, he could make change to five dollars. Understood and enjoyed playing dominoes. Elementary physiology, geography, natural history and familiar science were part of his daily programme. In all, he showed considerable thought and judgment.

All manual work was very distasteful to him. A certain amount was exacted daily, however. Educational and corrective gymnastics,

calisthenics and dancing did not appeal to him strongly. All sorts of persuasion were resorted to in order to obtain satisfactory results. He could sew on buttons well. His penmanship was fair, often quite shaky; but he could dictate a very passable letter and spell all ordinary words correctly. Being fond of music, he excelled in that branch, particularly instrumental music. He sang hymns to his own, simple accompaniments. For one disinclined to exertion as he was, his three years of training were profitable. He learned to dress and undress himself and to bathe alone.

Our age limit caused his withdrawal from the school. I receive letters from him regularly.

TYPE II.

Cretinoid boy twelve years old; weight, 66 lbs.; height, 4 ft. 5 $\frac{1}{8}$ in. Handicapped by scrofula and eczema, adenoids, slight hydrocele, fainting spells, weak heart action, chronic diarrhoea. History of the case is as follows: First child, full term, ordinary labor, no instruments. Ordinary animation at birth, no convulsions. Nursed by mother until six months old, when mother became ill with fever. Cholera infantum followed with "brain fever" accompaniment. Took no solid food until seven years of age. Lived on cows' milk exclusively. Father finally starved him into taking solid food. Would not consent to change in diet until he had fasted thirty-eight hours. Diarrhoea, which had become chronic, became less pronounced after he began taking solid food, but did not become permanently cured until he had been with us two years. Until the advent of the solid food diet his physical development was almost at a standstill. It then began to improve very slightly. Rapid growth did not begin until thyroid treatment was used.

The father says: "At the age of seven years R. became ruptured. The bowel descends into the scrotum, but goes back easily. Once it was cured for several months, but during an ague chill, he shook it down and since it has been impossible to confine it. We are unable to get any truss that will hold it in place long enough to heal."

Father of child had tendency to tuberculosis. Several members of his family died of this disease. There are three other children in the family, all sound mentally. One boy rather puny. Before coming to

us, R. could dress and undress himself fairly well, but could not bathe himself. He soiled both day and night clothing. Articulation poor. Language very deficient. Disinclined to talk except in play or games of which he was very fond. Quiet, active, trustful, truthful, and obstinate. Head well-shaped tho rather small.

Head measurements:

Circumference	50. 8 mil.
Transverse (tape)	28. "
Transverse (caliper)	14. "
Longitudinal (tape)	34. "
Longitudinal (caliper)	17. 3 "

Eyes deep-set and close together. The brain trouble of babyhood resulted in a rapid closing of the fontanelles. For a time, his head seemed to grow too fast. Later, head symptoms disappeared and he was left with chronic diarrhoea. Immediately after his advent into our school, thyroid treatment was given. Results very satisfactory. Continued for two years. Scrofula and eczema yielded to dietetic treatment. Adenoids were removed. Truss was cast aside at once, as an examination by several physicians revealed a case of slight hydrocele, owing to poor circulation, instead of the so-called hernia. Special physical exercises were given to strengthen the muscles involved, and to improve the circulation. Massage was also used. Fainting spells soon ceased. Diarrhoea was gradually checked, but it took two years to entirely cure this trouble.

R. is one of our graduates for 1908, having reached our age limit. Height, 5 ft. 3 in.; weight, 105 lbs. As to mental progress made, the following notes may serve as an indication. When admitted, R. could read several words at sight, two or three letters of the alphabet and several figures. He now reads in the second reader and enjoys simple story-books. In number work, he is not strong having only mastered the tables through 5. Very clever in making change. Tells time by the clock. Writes well, composition weak, but original. Excels in physiology and natural history. Average ability in geography, literature and familiar sciences. Mechanically, he is a genius. He will draw or make any kind of mechanical vehicle, engine, etc., he sees. Makes trolley cars, railroad trains, automobiles, steamboats, etc., that are remarkable in their trueness of detail. Sloyd work, clay modelling,

paper modelling, basketry, and sewing-machine work are his specialties. He made a shirt, complete and perfect in every detail, for the St. Louis Exposition exhibit. Expert in all lines of needlework.

R. came to us an invalid with no resources. He left us June 26th, after five years of training, in the best of health, (the services of a physician have not been required for two years, four months) and resourceful to an uncommon degree for such a type of child.

Some one has written: "He that has no resources of mind is more to be pitied than he who is in want of necessities for the body, and to be obliged to beg our daily happiness from others, bespeaks more lamentable poverty than that of him who begs his daily bread."

TYPE III.

Spastic paralytic, age seven years, three months. Lateral deviation. Head undersized, contracted in front. Weight, $37\frac{1}{2}$ lbs.; height, 3 ft. 9 in. Premature birth, eight months. Deficient animation at birth. Instruments used. Arm broken. Convulsions three days after birth, attributed by physician to broken arm. Peculiar from birth. Sixth child. Sickly babe. Sight poor. Cross-eyed. Commenced to walk at three and one-half years. Bowels inactive. Retention of urine frequent. Severe spasms at intervals until school was entered. B. had one severe spasm three days after she was placed in school, but she never had another. Indiscretions in eating very likely caused spasms. Antecedents normal and sound of body. Brothers and sisters also. When placed in school B.'s eyesight was so poor that she would run into chairs, walls or people. Slight strabismns. Could not distinguish persons halfway across the room. Did not talk at all. Lack of co-ordination manifested in every movement. Fell every few steps. Child very frail. Table manners shocking and repulsive. Mastication poor owing to scarcity and bad condition of teeth.

B. has been with us six years. She can distinguish people across the street and can use her eyes well for reading, writing, sewing, etc. General improvement very marked. Extreme care in diet, sweet oil accompaniment; malted nuts, oil massage, electrical treatment; outdoor games and corrective gymnastics have wrought a great change in this child. She jumps, runs, plays foot-ball, croquet, dances, and goes through calisthenic exercises unaided. Goes up and down stairs like

other children and can walk two miles without undue fatigue. In walking, B. is inclined to save one leg (left) thus making her appear a little lame. When her attention is drawn to it she corrects the fault. There is still some weakness on the left side, she being prone to lean over to the left when fatigued or deeply absorbed. Power of co-ordinating movements greatly improved. B.'s speech is little less than normal, she speaking in full sentences and articulating well. Reads in second reader and spells well. Inflection and enunciation good. Thoroughly understands and enjoys what she reads and can reproduce a lesson in her own words. Table manners compare with the best in any family. Has full complement of good teeth, therefore mastication is thorough. Progress has been made along all lines of school work. In number work B. is in short division. Tells time by the clock. Combinations to \$1.00 are made in coins. She writes a letter home every week, dictating every word and spelling all reasonable words. Her penmanship is not good as her hand is unsteady at times. She shows proficiency in nature study, physiology, geography, United States history, familiar sciences, and the study of birds. Kindergarten work and needlework have helped to strengthen her hands and make them useful along all lines. In vocal music she is somewhat of a prodigy. Her elocutionary efforts always please visitors. "My Shadow," by Stevenson, is the grade of recitation given.

It is a mortifying fact that avenues of approach to this child's darkened intellect have been more frequently opened "as a result of chance rather than of contemplation, of accident rather than of design." Open confession is good for the soul.

TYPE IV.

Mild Mongolian. Capable of being trained to a high grade of efficiency along many lines. M. has the following characteristics common to this type: Small of stature, 4 ft. 8 $\frac{3}{4}$ inches. Stockily built. Weight, 91 $\frac{1}{2}$ lbs. Head rather small, obtusely rounded. Tongue rough and hacked. Hands and feet short and broad. Delicate. Near-sighted. Uses glasses. Catarrhal disorders of digestive and respiratory tracts. In mathematical calculations extremely dull. Fond of music—time and tune poor, however. This particular case is cited because of the physiological condition of the dental arches, causing a deformity. Ar-

ticulation very poor. The anterior part of the lower jaw protrudes on account of an abnormal lengthening, apparently in the bicuspid region. M. has attended our school for three years, but her extremely delicate health precluded the possibility of an operation to correct this defect until now. When admitted, M. was twelve years old. Scrofula, eczema, adenoids, malnutrition, weak heart action, and catarrhal troubles were encountered.

As soon as possible adenoids were removed and every possible measure was taken to improve the general health of the child. Three months after entering, M. suffered an attack of erysipelas being ill three weeks. Since then she has had little or no scrofulous symptoms. Eczema then became very troublesome on her scalp. She lost most of her hair. It proved a very stubborn case, but after five months of unremitting effort it yielded to treatment and there has never been any recurrence of the trouble. Now her general health is perfect. She is well nourished and her heart action is good. At the close of school we propose to have the facial deformity corrected by means of an operation, followed by orthodontal work. So far as we can obtain information on the subject only two such operations have ever been performed. Dr. V. B. Blair, Professor of Surgery, Dental Department of Washington University, St. Louis, is to perform this unique and difficult operation. Dr. Blair recently operated with marked success upon a medical student of this city having the same deformity of jaw as our little girl.

The accompanying cut illustrates the operation referred to.

M.'s lower jaw protrudes to a much greater degree than that illustrated in the cut. The twofold object of the operation and the subsequent orthodonture is to secure useful occlusion that will improve articulation and nutrition and give a symmetrical facial outline. The general plan of the operation, as has been explained to me, is this: A tooth on either side of the lower jaw will be removed. Then, through a small cut on the under side of the chin, a section of the jaw of proper size will be removed and the chin and the front of the jaw brought back and held there until union occurs. The lower teeth will not be brought back quite to the uppers in front, as the uppers are too far back now. Later, the orthodontist will move the upper front teeth forward, which will increase the development of the face in the neighborhood of the upper

lip and line up all of the teeth to proper positions. The result of this operation is awaited with great interest by all concerned. And now my story's done, or better expressing myself, "And what is writ, is writ. Would it were worthier!"



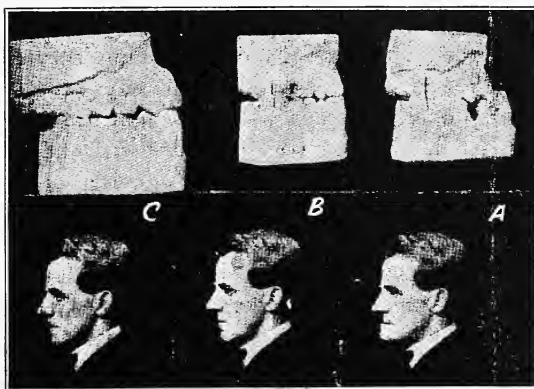


ILLUSTRATION OF CASE. *A*—Face and dentures before operation. This face is artificially reconstructed from cast of dentures and photograph of present condition, but is not an exaggeration. *B*—Present condition of face and dentures. The teeth behind the canines are capped with gold crowns. *C*—Reconstruction of face and dentures to show what would be the result of proper orthodontic treatment. Note that the chin is brought up and the septolabial angle lessened, which makes the nose less conspicuous. This particular case is reported in *Dental Cosmos*, August, 1906, and in the *Inter-state Medical Journal*, September, 1906. Lower piece of cast *C* is a little too far forward.



NOTE.—The operation on M. has been performed. Her appearance before and after.



READING AND LANGUAGE.

BY MISS CHARLOTTE HOSKINS MINER, ORANGE, N. J.

After a certain amount of experience in teaching, as in life, the value of our work depends largely in keeping ourselves diligent in doing over and over and over again the things that we have learned are the only things to do, and going at them each day with the same feeling of their importance as we did when the fact of their importance first dawned upon us. In learning memory gems at school, we each used to say the verses in turn, and then, in order to fasten them more securely in our minds, all used to get up and say them in concert.

The methods which we have been using in our various schools are all based on the same principles of teaching, and are, therefore, so nearly alike that there can be little new to offer on my topic. In this discussion it seems as if it must be like the old school recitation—we have each been saying our verses alone the year through, and now we meet for the inspiration of saying them in concert to more firmly fix the importance of these principles on our minds. Properly, I should have sent in my subject worded "Language and Reading" if order of mention were to indicate order of importance. Reading is not of great importance and the teaching of it is sometimes a crime. There are many children who can learn to be useful and get some happiness from contact with their little world of things, people who can never learn to read or gain anything from it. After seven or eight years of struggle, painful to the child and wasteful for the teacher, (in that she might have given him something of use to him in the time so spent) such a pupil may learn to pronounce words—may read the primer, or first reader—but it is like the dog who has learned to walk on his hind legs, he has gained a mere trick and a useless one. He has learned a thing he was not meant to do and does not enjoy. The ability to learn to read and need of the art depend on the ability to get language and the amount of power it brings. We are so anxious for the spoken and written word that it is hard to keep before us that the majority of our children are without language or application of it because they do not think, because they do not love, because they have not learned to create. Professor Chubb says: "Our common fault in our

practice is due to the failure to see that thought and language are twin products and we must deal with both in order to deal effectively with either. We speak, for example, of working for a vocabulary, without recognizing that accumulation of a vocabulary implies growth of thought, the development of cognition, the growth of mind and the growth of language in the mind together."

The normal child goes through his stage of sense-training so quickly, makes use of his discoveries with so little aid from teachers and parents, that we forget that he does have to learn to use his various senses. With our slow child, we must invent exercise after exercise to stimulate his sense perception. And it is only after these perceptions are aroused that he will have desire for expression; therefore, the beginnings of language-teaching will be in sense-training classes. This patient working month after month to give the child realization and comparison of taste, color, smell, size and sound—these lessons that are so simple (we feel he must already know them even if he gives no expression)—require that the teacher must needs be inspired to have courage to keep them up long enough, and the parent great faith to believe that time thus spent, is really teaching. While this is going on in the daily games and songs, he is learning to go out to his little companions, and more important than the sense-training is this sense of "otherness." Until he has learned gentleness, self-control, the pleasure of serving, he is a little shut-up being with no need of language.

It is through the mother's constant repetition of names and commands that the baby gets the words which he stores in his memory and uses when the desire for expression comes. The slow child is a baby longer, therefore he must have this repetition of words longer. Hence, we continue the nursery jingles and the simple songs; we give him good pictures without end, and the toy menagerie for him to handle and play with, constantly giving him sentences and phrases about these objects, and other things he daily uses—his pets, the program of daily duties and pleasures. The stories he loves to hear he can later be encouraged to tell for the pleasure they will give his companions. The excursions to park and museum, the concert he has heard, the play he has seen, the sights on the farm will give him things to tell about in the letters home and to the little friends who did not ac-

company him. He must have experiences of his own before he will be interested in the experiences of other children, and he must know something of the existence of an outside world before he will listen to tales of his own or different countries. After this knowledge to stimulate his imagination, every geography and number and reading lesson will be a language lesson.

The class exercises which teach him the spelling and right use of words and correct grammatical construction and the daily correction of his errors in speech, are necessary. Our schools are likely to give them in plenty, but these arbitrary exercises do not encourage him to acquire language. I doubt if the deficient child ever has enough of the help which comes through the inspiration of experience and hearing people talk. Miss Sullivan says: "Good work in language presupposes and depends on a real knowledge of things. I never taught language for the purpose of teaching it, but invariably used language as a medium of thought. In order to use language intelligently one must have something to talk about, and having something to talk about is the result of having had experience."

Work with a prodigy like Helen Keller, you may think, has no bearing on our problem. It seems to me that there is more for us to learn from the account of Miss Sullivan's working out of a natural method and her constant study of the normal child, than from almost anything I have read. I think it is Mr. Macey, editor of the story of Miss Keller's life, who says: "It is doubtful if we should have heard of Helen Keller if Miss Sullivan had not been where there were other children. By watching them, she learned to treat her pupil as nearly as possible like an ordinary child."

The best methods of teaching the normal child are the methods we want to employ with our slow child. The only difference in application will be that we must magnify the method. We must take the steps a thousand times more slowly and simplify the processes and never take for granted. Because it is well for so many reasons that the peculiar child be educated by himself he loses the benefit of association with normal companions. It is of vital importance that we keep normal and keep ever in mind what the normal child is like. In the teaching of reading there will be the difference of the time it takes for our child to learn to recognize a given number of words, or sounds.

When he begins to learn of Mother Alphabet's numerous children, and the different things they say, it will call for more drill in the blending of the sounds to get out the words. In reading, certainly, nothing can be taken for granted. To give the right foundation for thought-reading—the only kind of reading worth while—we should never give new words without using all the exercises possible to make sure the child connects the word with the action or object which it names. Always have the real object, if possible, and many of the same kind, and let all the actions possible be performed by the child. There should be the cultivation of the silent reading of the sentence. This silent reading and constant questioning of the teacher to get the meaning of the sentence and paragraph, are the only way to get expressive utterance. In the mechanics of reading we are not so apt to make mistakes and find problems, as in the keeping the reading within the child's comprehension. We must select for him to read, material within reach of a mind that will always stay a child mind, in many instances a baby mind, even when there is facility to recognize words and readily make out new words by sound.

I have found that certain kinds of type, too long sentences, too long paragraphs, can give great trouble even where the words are familiar and the matter within the child's comprehension. Because of weak attention, too long sentences will always be a stumbling block. Many times, because his world is so small, the pupil's best book will be the one he makes for himself—stories of his school life, companions, and pets. Fairy tales and fables are the child's right, but must be wisely chosen, and given sparingly to the nervous, dreamy child for whom it is hard to separate fact and fiction. But whether we give them fact or fiction, choose the subjects that will give pleasure, and, paradoxical as it may sound, even in reading we can keep the children away from the books,—the books, their friend Dr. Seguin, could not have them tormented with; "whose best," he believed, "could not prevent them from remaining like ourselves, more remarkable for what they will continue to ignore than for what they will have learned."

In their reading we can stick to his injunction: "Teach them mainly by, with, and for what can make them happy."

JOURNAL OF P SYCHO-A STHENICS

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MINUTES OF THE ASSOCIATION.

The thirty-first annual session of the American Association for the Study of the Feeble-Minded met at Waverley, Mass., June 5, 1907, at 2:30, P. M.

President Dr. W. H. C. Smith in the chair. The members present were: Doctors F. W. Keating, A. H. Beaton, Charles Bernstein, A. W. Wilmarth, W. H. C. Smith, Henry H. Goddard, C. T. Wilbur, G. L. Wallace, David F. Lincoln, A. C. Rogers, W. E. Fernald, and C. S. Little; Professor E. R. Johnstone, Miss Mattie Gundry and Miss Fannie King.

Visitors present: Mrs. C. T. Wilbur, Mrs. W. H. C. Smith, Miss Elizabeth Jackson, Dr. Joshua Webster Hering, Miss Mary B. Lansing, Hon. Wm. R. Schneitger, Dr. Bertha Downing, Miss F. J. Herrick, Mr. E. A. Andrews, Mrs. Chapin, Mrs. Brackett, Mr. Francis Bartlett; also Miss L. M. Moulton and other teachers of the school at Waverley; Master Raymond Wilmarth and the Waverley official corps.

Dr. Fernald kindly arranged for a number of his nurses also to attend the session.

Letters of regret at inability to be present were read from Dr. Stewart, Dr. Mogridge, and Dr. Murdoch.

A communication from Dr. Archibald Douglas of the Royal Albert Asylum, Lancaster, England, was read in which he extended kindly greetings to the association.

Upon the announcement of proposals for membership by the chair, the secretary presented the names of Dr. H. G. Hardt, Lincoln, Ill.; Dr. G. L. Chamberlain, Lapeer, Mich.; and Dr. E. J. Emerick, Columbus, Ohio, for active membership.

Mr. E. R. Johnstone proposed the name of Mrs. Reid, of Detroit, Mich., for active membership.

The persons whose names were proposed as above were unanimously elected to membership.

The president made the following appointment of committees, namely: on organization, Dr. Keating, of Maryland; Mr. Johnstone of Vineland, N. J., and Miss Gundry, of Falls Church, Va.; on time and place, Dr. Wilmarth, of Chippewa Falls, Wis.; Dr. Beaton, of Orillia Ont., and Dr. Bernstein, of Rome, N. Y.

ADDRESS OF WELCOME

The president then presented Col. W. W. Swan, president of the board of trustees of the Massachusetts School for the Feeble-Minded, who delivered the following address of welcome:

MR. PRESIDENT, and ladies and gentlemen who are connected with the many public institutions for the instruction and training and custody of the feeble-minded throughout the country. As president of the Massachusetts school for the feeble-minded, on behalf of the trustees of the school and its officers and teachers and instructors, I bid you welcome to our home.

You have not visited this school since 1880. The trustees in their report for that year say: "A matter of interest was the visit last summer of the superintendents of ten similar institutions in other states. They were met here by a delegation from our board, and a profitable interchange of views and methods took place." My name is affixed to that report but I cannot remember the occasion. As my office books show that I was away from home for a few days at the middle of the month, I will conclude that I was not one of the board who met the superintendents in 1880, and so I personally can tell you nothing of the matters then considered although it would be pleasant to do so.

Dr. George G. Tarbell who was then our superintendent and soon after a trustee and later president, in his report of 1880 to the trustees, says: "We had a very pleasant visit last June from the Association of Superintendents of American Institutions for Feeble-Minded Youth, which had been holding its annual session at Barre, Mass. The association is composed chiefly of those actively engaged in the management of institutions. The meetings are held at the institutions in various parts of the country and are of great advantage to the superintendents as furnishing an opportunity for interchange of ideas concerning the best methods of management of institutions and of instruction and improvement of idiots."

I have nothing further to indicate the subjects of discussion in 1880. I do not know whether any of you were then present. I am confident, however, that the program of to-day shows great advance in the art in twenty-seven years. I think I shall not be disputed if I assume that two subjects about which there was "a very profitable interchange of views" at the meeting in 1880, were the opening of a ward for unimprovables and the acquisition of farm land for the big boys—matters which greatly interested us at the time. For many years prior to the coming of Dr. Tarbell the idea of school instruction had prevailed with the trustees. The nearer the child to the normal child the more welcome was he as an inmate. Dr. Tarbell in his first report, in 1878, speaks of the deep regret with which he had returned unimprovable cases to their homes and refused the admission of others and urges the opening of an asylum. The year before your visit he had been to the great institutions of Ohio and New York, and had come home imbued with the idea that land was a necessity for the proper development of the idiot boy. We had at

South Boston but two and one-half acres of land all told, of which we had but forty square rods under cultivation, a very small affair when compared with the extensive fields at that time attached to the homes of the feeble-minded in many other states, or with our own fields of to-day. We boasted that we were the first public institution for the training and instruction of the feeble-minded and yet in thirty-three years we numbered but 85. To Dr. Tarbell we owe the awakening from our lethargy and this, it so happens, was on the occasion of your last visit.

In 1880, the year of your visit, the trustees authorized the purchase of a farm with the private funds of the corporation, and in 1881 it was procured—the Howe farm of 100 acres located twenty miles from South Boston—and thither we transferred fifteen boys, and a new building erected at South Boston enabled us to open a custodial department. Dr. Tarbell was not superintendent long enough to have his superior qualifications recognized among the superintendents of feeble-minded institutions of the country. Indeed he was at first a student rather than a teacher, but he held the office a sufficient time to acquire a practical knowledge of the requirements of these schools. On his resignation as superintendent he was elected a trustee and thereafter for fifteen years the school had the benefit of this knowledge. He was largely instrumental in our removal to this place. Not the least of his good works for the school was his finding and recommending for election to the office of superintendent, Dr. Fernald, who came to us at the close of the school year in 1887.

It may be well for me to state that this school is a corporation originally independent of the state. It has depended, however, almost altogether upon annual appropriations made in its behalf by the legislature upon the condition, for many years, that four of the twelve trustees should be appointed by the governor, and that we should educate thirty idiotic persons to be designated by him, the latter number being increased from time to time with an increase of the appropriation. In 1878 the board was reorganized, the governor, thereafter, appointing six of the trustees and the corporation electing the other six, an organization which in the case of a charity like this seems to me most desirable since the school is thus removed from political strife, the board of trustees becoming, as it were, a permanent board with but

one object in mind: to administer its trust so as to make the school the most efficient instrument possible for the good of the class for which it was designed. Since 1878 the appropriations have always been such as have been recommended by the twelve trustees. Since 1898 the corporation has reported to the State Board of Insanity, but the trustees have sole power in the matter of the appointment of officers and the discharge of patients.

Do not imagine that I speak unfavorably of the general plan under which this state conducts its charities. Our peculiar organization comes from the fact that the state sixty years ago incorporated and gave of her wealth to certain philanthropic gentlemen who were experimenting in a new field. Now that the experiment has proved successful she has been reluctant to withdraw her support from a corporation whose change in membership has been so gradual and whose attention to the purpose in view has been such that it seems as if a single human being had all these years been in charge of one long continued experiment. But Massachusetts has many other charitable institutions. She cares for the destitute poor, sick, blind, insane, and others as well as the feeble-minded. She is a generous mistress. She spends nearly one-half her income in charity. The system under which she does this and which I heartily commend, is putting each institution, where a number of destitute persons are gathered, under a separate board of unpaid trustees who engage and hire the superintendent and other paid officers and are responsible for the welfare of the destitute patients and the large sums of money spent for them. For convenience these boards of trustees are incorporated. They are appointed from all over the state by the governor and council, from persons well known for their interest in the care of the unfortunate, or otherwise of seeming fitness for the appointment. They are the souls of their corporations. They treat the destitute as if they were human beings. They do not forget that the meanest person in their charge is a human being. If they make any mistake it is on the side of humanity. They make items to be set down in life's ledger that cannot be balanced in columns for dollars.

We came to this place in 1900. We have here a tract of land of 150 acres, well diversified—hill and valley, woodland, pasture, orchard and garden. We have here an administration building, a schoolhouse, a

gymnasium, a manual training building, a boiler-house and laundry under one roof; a hospital, a farm-house, nine dormitories, four nurses' homes each providing single rooms for twenty-one attendants, and a substantial dwelling house for the superintendent. The legislature has voted us an appropriation for two homes for male employees, for an enlargement of the manual training building and for two strong houses for the custody of incorrigible patients. We have equipment for more than 1000 patients. The property has cost the state far less per capita than its other properties for like purposes; it is but fair to state, however, that it represents an immense amount of work done by our feeble-minded boys. They have dug most of the cellars and done most of the work in getting the stones for the cellars into place. They have made all the roads and paths. They have done all the painting. They have done nearly all of the steam-fitting under a steam-fitter in the permanent employment of the school. There has been an immense saving in this one item. They have dug all the conduits for steam and water pipes, for we heat our buildings by steam from central plants and we carry water from a central water tower to every building on the premises. We commend to your observation the approaches to our fire-escapes. We recommend a minute inspection of our new girls' dormitory, built on the general plan of all our dormitories, except the first, but making use of the basement which we did not do in our earliest buildings. For a safe, well ventilated, well heated, healthy, inexpensive dormitory for 100 patients, we recommend the new girls' dormitory as a model.

We commend also to your observation the manner in which we have enlarged our administration building. When we came here, bringing about 200 inmates, we set 400 as the limit to which we were to grow. Even with \$200,000 at our disposal it was necessary to economize and we economized chiefly in our administration building in which were our rooms for officers, teachers, domestics, and our kitchens and bakery. Since then we have enlarged our plant to accommodate 1000 inmates and some 200 persons to take care of the 1000 inmates. We ask you to note particularly how every inch of space has been utilized, for the extent within which we could expand was limited by the nearness of other buildings. We take no little pride in our kitchens and bakery, as enlarged; in our new dining rooms and our new sleeping rooms for domestics, and our capacious store-rooms.

Our well lighted, well ventilated kitchen—its huge cooking-range in one division and multitude of cooking-boilers in another, its apparatus for the preparation of vegetables in still another division and its apparatus for washing dishes in another, all under the direct oversight of the head cook—is a model for any institution or hotel in the country. A single, paid baker with the help of three or four feeble-minded lads makes into bread, every week, forty-two barrels of flour besides baking brown bread and beans and cakes and pies for nearly 1200 feeble-minded persons and more than 200 employees. We bake bread for our colony of which I shall speak presently. Barrels of bread are sent every week to Templeton where the barrels are stored until the end of the farming season when they are returned to Waverley filled with apples and farm-products. We recommend also a study of our hospital with its plan for immediate enlargement.

Of the system of training and methods of instruction followed at Waverley, I shall say but little other than state that it has been the policy of this school for nearly twenty-five years to give the preference to the very worst cases of those applying for admission. There are now in our school some forty inmates who thus far have learned nothing of the decencies of life and never will. We have thirty-one who are unable to walk and twenty-nine who move with difficulty. We take the sick, puny, feeble-minded infant who, we know must die in a month, more or less. We have adopted the policy because we think that by it we do the most good, giving relief to the community from which most of the extreme cases come. By this policy we seek to prevent the pauperization of whole families. A similar policy will account for the limited course of study you will find in our school department. To me it has always seemed folly to attempt to make a fine lady out of a foolish girl taken from the class of life from which our school-girls mostly come. I prefer to send a girl home—and in theory all our school cases are sent home after a few years of instruction—who keeps her person, her hair, her teeth, her clothes clean from habit; who is well trained in washing and ironing, in sewing, mending and darning; well trained in dusting a room, in making a bed, in setting a table, and even in cooking, rather than possessed of any number of accomplishments. So, too, reading fairly well, writing well enough to send home a letter which shall be satisfactory to himself, and

ciphering well enough not to get cheated in a matter of a week's wages, in addition to the training a boy gets here at Waverley in habits and hand-work, I consider a full education for our boys whether they go home or stay on with us at the Templeton colony.

During your visit we shall take much pleasure in showing you our Templeton colony, a novelty not yet adopted, certainly not in its entirety, by any other institution. We ourselves took the idea of sending our big boys who have received the advantages of the school discipline and instruction to a separate home in the country where they may live lives of usefulness more inexpensively than at the school, from our experiment at the Howe farm which we tried in 1881 and succeeding years, at Medfield, twenty miles from Boston, while we were yet in our cramped quarters at South Boston. We are but repeating that experiment upon a vastly larger scale. We have at Templeton, seventy miles away, 2000 acres divided into four colonies, each of which is organized to take fifty boys. Each is separated from the others, but within visiting distance. Soon we shall have another colony of fifty boys, and before many years are passed we shall have at Templeton 1000 boys and men divided into separate colonies perhaps of 100 each. Some of them will be working colonies, some of them simply homes for old men.

When we were contemplating our colonial system we thought to establish as a part of it homes for our big girls, but we have come to the conclusion that this is impracticable and as female feeble-minded patients grow old and infirm of body we shall erect comfortable homes for them here at Waverley, but quite apart from the busy portion of our community.

There is no restraint at Templeton. At times the boys wander over the whole domain. In eight years only three or four have run away. But one has died. They lead a happy out-of-door life. Most of them can read and write and cipher a little. Most of them have, or have had, some knowledge of geography. They are picked boys of good character. There are a few cripples among them whom we have not the heart to part from the strong fellows who looked out for them at Waverley and who continue to look out for them at Templeton. The few who are feeble in body as well as mind keep alive the humane instincts of their strong associates as nothing else would. All these boys

have had the advantage of Waverley training. They have learned to do things accurately. They have learned the use of tools. They have dug cellars and ditches and mended roads. They have mended shoes and mended furniture. They have planted gardens and gathered garden products. Three of these colonies now consist largely of grown men each doing, under superintendence, a man's work every day. They ask for no eight-hour law. They go to bed tired every night. We call attention to the inexpensive construction of the buildings at Templeton. Their character and cost have been regulated by the character and cost of country dwellings occupied by persons in extremely moderate circumstances. The cattle-barns are our most expensive buildings. The economy of the colony lies in the superb health of the inmates and a feeling among them closely akin to self-reliance; in the inexpensive plant and inexpensive attendance; and in farm products over and above those required for consumption by the colonists. We sent twelve car-loads of food stuffs from the colony at Templeton to the school at Waverley last autumn. We hope before a great while to establish a great milk farm at Templeton for the benefit of the school at Waverley. This is a matter which is now under consideration by the trustees. It is a matter of expense. We find that feeble-minded boys cannot milk and we are forced to employ paid employees who can; but we hope soon to find sufficient economy in milking by machinery to warrant our adoption of that plan. We employ local medical attendance and our doctor's bills are but a few dollars a year. For the first eighteen months it was but a single dollar. Our superintendent or one of his assistant physicians visits the colony every week. A matter worthy of note is that several of the boys who were sent to Templeton for life, as we supposed, have been so much further improved mentally that their friends have found employment for them elsewhere and withdrawn them from the school.

You who hear me need not be reminded that when you go to Templeton you will find there mostly feeble-minded boys who sixty years ago would have been utterly neglected. Sixty years ago the idea of a training school for idiotic boys, such as many of these originally were, would have been ridiculed by the community. Now there are thirty schools like this in the country pursuing substantially the same methods of instruction and training. We do not assert that our boys

at the colony are a particle more advanced in knowledge and behavior than a similar number of picked boys who may be found in your own institutions. But we do claim that the life in the colony is an ideal life for men and boys who, having received such instruction as they are capable of receiving at the more expensive training school must remain a charge to the public until death.

Dr. Howe, in his report concerning the experimental school of 1848, including under the term "idiotic persons" all that were too feeble in intellect to take care of themselves, said: "The researches of the Commissioners of 1846-47, showed the surprising and lamentable fact that there were about 1200 idiotic persons in the state." And he goes on: "If these unfortunate creatures were all to be brought together into one assemblage they would present a spectacle of human wretchedness and degradation that might melt the hardest heart and appall the student." Now, if Dr. Howe could revisit this earth and could come to this school—and I feel that of all the great charities and philanthropic efforts with which his name is associated he would be most interested in the condition of this school—if he could see our 1100, and more, inmates he would not witness a spectacle of human wretchedness and degradation. Nor would he find wretchedness and degradation in the thirty similar institutions throughout the United States that have come into being during the last half of the preceding century and the six years already gone of the present century. He would find everywhere orderly assemblages of well clothed, well housed men, women and children, mostly comfortable, and so far as may be, happy and contented, in your institutions, ladies and gentlemen, as well as here in Massachusetts.

Again I welcome you to our school.

RESPONSE BY DR. ROGERS.

The president: As the person to make the response to the address of welcome has been left vacant on the programme, I will take the usual license and call on Dr. Rogers to perform this function.

Dr. Rogers: The matter of a response is largely one of form. Otherwise this little conspiracy between our president and Dr. Fernald would not have taken this shape. However, while this honor has come without previous announcement, it is no mere perfunctory statement to say that we appreciate your heart-felt welcome; we believe all that

you have said and more. None of us who have ever visited Massachusetts have left without new inspirations, both as American citizens and as professional people. To us as citizens, these come from your historic spots, from your beautiful landscapes, and from the fact that along the Atlantic shores just over yonder to the east and south, were planted the first seeds of that sturdy, heroic and righteous manhood and womanhood that have ever since leavened the whole of this nation and given to it the characteristics that are known throughout the world as "American." As professional people, we receive an inspiration from this splendid institution grown up here at Waverley, so thoroughly organized and so economically and harmoniously administered. Some of us connected with the western institutions look to the East for our models and when we look toward Waverley we do not look in vain. It is a great pleasure for us to be with you, and we shall hope to carry back with us some of the spirit which pervades this place.

PRESIDENT'S ANNUAL ADDRESS.

The secretary then announced the president's annual address.

The president: Ladies and gentlemen and fellow workers. At the association held at Glenwood, last year, it was my pleasure to express some views on "The Lack of Professional Knowledge Concerning the Feeble-Minded," and the few remarks which I shall have to present to-day will be in the nature of an enlargement of the subject presented at Glenwood.

I am fully cognizant of the fact that this little paper may not meet with unanimous approval in this gathering, but I am also fully cognizant of the necessity of it, because I come in contact with the professional diagnosis, prognosis and treatment of some of my confreres in general practice almost daily, and so far are they at variance with the facts deduced from twenty-seven years of experience in two of the largest institutions for the feeble-minded in the world, and a private home school, that I feel it my duty to presume to mention the, to me, self-evident truths.

It is not the purpose of this paper to discuss the scientific aspect of imbecility, but something of its clinical history.

The congenitally feeble-minded are, so far as the minute anatomy of the nerve cells and trunks are concerned, as anatomically deficient

as is the child born armless, and so far as is known to-day, at home and abroad, there is no glandular extract, the injection of which will remedy either condition. I am repeatedly called into consultation with parents having congenitally defective and neurotic children, whose family physician unqualifiedly tells them in each case that the child only requires the right training and treatment to render him normal, and I regret to state, as much as I appreciate the confidence reposed in the management of our home school, these parents must be told that we can not give this training and treatment. I do want to emphasize to any physician here, the responsibility which rests upon him with reference to the prognosis of the feeble-minded child. I feel that it bears upon all of us very strongly that although physicians in general practice undoubtedly express their honest opinions in suggesting that we can cure a feeble-minded child, we know this is not a fact. As a matter of fact, I have never seen in my public institution or in my private home experience, the congenital imbecile (and my experience embraces a personal knowledge of over 3000 imbeciles of all grades of mental deficiency) whose defect was ever entirely remedied, or who was ever safe to assume an unsupported position, or who, in my opinion, should ever assume complete social obligations on even a moderate level. It is a fact that, to my knowledge, no institution of repute in this country employs the term "cure" in its vocabulary; for cures, as generally understood, are not achieved and never have been. We improve and train by encouragement, by precept and example, by placing normal conditions around abnormal children and relieving them from the overwhelming and breaking strain of normal competition. Drugs are relegated to the background and in their place pleasant environment, careful diet, congenial association, sympathetic encouragement and freedom from ill-advised competition are made to do a natural and beneficent service.

This class of children is a foreign body in the body politic, and as such makes segregation and classification imperative, and it is a clinical fact that only under such conditions are we, as professional men and women, providing our unfortunate brothers and sisters with conditions favorable to their development and giving them the inherent right of all human beings,—life, liberty and the pursuit of happiness,—for there is more liberty for this class in intelligent segregation than in open competition; albeit on a plan and in a sphere different from our own,

and one which requires years fully to appreciate or understand.

The question of the education and training of this class is, primarily, much more a question for the medical man than for the educator, although both are vitally interested. The first person called to see and pass upon the peculiarities of the imbecile or idiotic child is not the teacher, but the doctor, and upon his edict depends large interests of both child and parent, and the laying of future plans. In view of the vastness of the subject and its relations to social economy, with its over 100,000 unfortunates in this country alone, as determined by the last federal census, it behooves us, as members of a profession standing very near this aggregation of affliction, of misfortune, of blasted hope and parental interests, to have an intelligent idea of the dangers of social freedom and to be frank with these parents so sorely afflicted, firmly advising them of the great benefit, in fact, the absolute necessity of segregation and special care of the mental defective, subject to classification under this head, because any other course is provocative of much future injury to the child, the parent and society.

Because of the marked element of individuality of the neurotic child, no man, valuing his professional reputation, will attempt a prognosis in accordance with the parents' ardent hopes; for a classification of juvenile mental defectives, excepting in a very gross manner, has proven of but little value up to the present time. Children of this class can be made much happier and infinitely more useful when segregated and I feel quite sure that the past fifty years' effort and experience of consecrated men and women have surely demonstrated the great value of the cottage plan, farm home school for such, under a central management, located only in the country, if for no other than the empirical, but surely clinical reason that these are God's children, and God made the country. Here let me quote the neurologist's axiom in justification of segregating this class, viz: "The temporary (or permanent) removal of the child or adult from those environments which have contributed to such a deplorable condition and which become a most potent factor in its continuance when once firmly established." The removal should be complete, not a "day school," with a return to the proven unsatisfactory conditions at night, resulting in a retrogression more marked than the day's improvement could possibly be.

I visited a man in Chicago the other day who has charge of the

child-study department of the Chicago public schools. As I entered the room he was busy with three unfortunate, neurotic children, very excitable, not fitted for demands of the public school system there. I was well acquainted with him and he took me into the room where the mothers had these children for his inspection. He wanted me to see these children and to see the parents. He went on to say that he had 3000 children on the application lists,—sub-normal children, children of all degrees of mental defect. What are they going to do with them? It is the same in your city, the same in New York, the same in Philadelphia, to a more or less degree. They try, in Chicago, to take care of say 300 of these children in the public schools, with teachers specially fitted, presumably, for the training and education of such children. What are they going to do with 3000?

This man agrees with me that segregation should be complete, that it is not a problem for the day school. It is not a question of classification except the gross classification of idiots, imbeciles, idio-imbeciles, excitable, etc.,—a classification so gross that it does not mean a great deal to those who think the matter out. These are individual cases—3000 individual cases. They cannot be properly cared for in the day schools presided over by teachers trained as teachers are under the present system. What are they going to do with them?

Permit me to state that I am not a pessimist in this matter of the development of the feeble-minded child, but that I have acquired by bitter experience the few facts so crudely stated. Of the various degrees of feeble-mindedness I will not speak but to enforce the fact that their freedom in a normal society is a menace to the community, as can be attested by thousands of instances. We can and do accomplish much for the permanent benefit of these children by training, but an early diagnosis depends much upon the family physician, and upon an early diagnosis depends the proper care and treatment during the receptive age. Parental affection far too frequently indulges in the mistake of keeping neurotic children in the home until age renders the best efforts of development well-nigh fruitless; whereas, the early inculcation of proper habits, far more readily learned in company, may make a dolt into a happy element or unit of a segregated society, and restore to him the inherent right to happiness vouchsafed to every human being.

I want to mention in this connection (because thus far in every state in the Union the alliance has been exceedingly close, greatly to the detriment of both classes,) the cause of the "epileptic," that "*bete noir*" of our profession, and bespeak for this class an added interest and consideration from the hands of the American Association for the Study of the Feeble-Minded, whose influence will, I am sure, give great weight to the subject to be brought prominently before our several legislatures until success crowns the efforts of those who have had these unfortunates at heart for many years. Can we not individually and collectively express our convictions of the necessity of epileptic colonies, in the form of resolutions or suggestions to that effect to any state legislature struggling with the question, and continue this campaign of education and demand until each and every state in the Union shall offer life and hope and happiness to perhaps the most sorely afflicted beings on earth, only excepting the criminal? Up to this time the confirmed epileptic, not essentially feeble-minded, has, because of imperfect classification, gravitated into the institution for the feeble-minded, greatly to the detriment and injustice of both classes, and it has been impossible to divorce them until quite recently. However, New York has shown us the way and it remains for us to walk in this way. The politician may discourage it,—the statesman and the individual taxpayer will not, and most assuredly not if they have kith or kin so afflicted. In the epileptic colony, I am convinced, we have the most logical and advanced method of care known to date. To those acquainted with this class it is not necessary to elaborate upon their condition, and certainly, with 150,000 epileptics in this country, we all know them by hundreds. My own personal experience embraces an intimate knowledge of over 1000.

Such a colony, freed from the incubus of political greed and mismanagement, can become more nearly a self-sustaining institution than that for any other class of defectives. I know of no reputable physician who is desirous of accepting the responsibility of the care and treatment of an epileptic although I know of many unreliable ones who freely advertise both their willingness and ability. Unfortunately reliable men with the largest experience are the most disinclined to accept this great responsibility. Pessimistic? Yes, but honestly so, with, perhaps, a fair knowledge through correspondence and reading of what

is being done at home and abroad. Let us take these unfortunates out of the hands of charlatans and bend our professional efforts towards as intelligent a solution of the problem as is, perhaps, dictated by experience up to the present time. This work will go on better and more rapidly with our help, but with us or without us, it will go on.

Epilepsy, like imbecility, is no respecter of person or social standing; it is found alike in the hovel and the palace; restricted to no country and no locality, it forces its claims upon us all, and bequeathes a heritage which will but multiply the responsibilities of our children's children should we not meet our obligations and attempt to stem this tide of woe in every manner and by every means within our power. By legislation, we do not hesitate to entail upon our children a heritage of vast financial obligations for beneficent commercial purposes or advantages. By the same token, it is our right to lessen a vast entailment of expense and suffering, inconceivable in extent, and by which we will at least feel the satisfaction which comes from a duty well done should we proceed to act in accordance with our light of experience.

A LITTLE ANCIENT HISTORY.

While waiting for Mr. Johnstone, whose paper was next on the program, the president referred felicitously to the fact of the presence of Dr. and Mrs. C. T. Wilbur, who were among the pioneers of our work in America, Dr. Wilbur being the only charter member of this association, now living.

Dr. Wilbur: I think, perhaps, a little ancient history may be appreciated at this time. I do not know of any one better qualified by age and experience in the work to give this, than myself. Some sixty years ago, more or less, a distinguished gentleman from Massachusetts, the Hon. George Sumner, a brother of Charles Sumner, went abroad and during his stay in Paris he visited a school which seemed to him extremely interesting and remarkable. It was the school that was being taught by the old Dr. Edouard Seguin. Itard, who was distinguished as an alienist, was Seguin's teacher. Under his management Dr. Seguin started this school for feeble-minded children. Mr. Sumner visited this school and then wrote a long and very interesting letter concerning it to friends at home. This letter went into details as to methods, etc., and was extremely interesting. It was printed in some Boston newspaper. Dr. H. B. Wilbur, who was then a young phy-

sician practicing in the central part of Massachusetts, saw the letter, became very much interested in the subject and resolved to start a private school for the feeble-minded. This school was started in the town of Barre, Mass., sixty years ago this month. Soon after, Dr. Howe, who had probably been interested before this, and who had been, I think, making some investigations into the subject, started his school in South Boston. The first private institution in this country was that at Barre, organized in 1847, and the first state institution was that organized by Dr. Howe in 1848. I worked as an attendant with my brother, so that as far back as 1849 I was actively engaged in the work.

So much for the original establishment of the work in this country. Massachusetts was first, both in private and state schools. Soon after, New York state felt the influence of this movement in Massachusetts and went to Dr. Wilbur at Barre, inviting him to take charge of an institution in that state. Thirty years later, at the time of the Centennial Exhibition in Philadelphia, expecting that there would be many people there interested in this work, Dr. Kerlin invited some of us to the institution at Media. Six of us,—Dr. Seguin, Dr. H. B. Wilbur, Dr. H. M. Knight, Dr. G. A. Doren, Dr. I. N. Kerlin and Dr. C. T. Wilbur—met in the parlor of the institution at Media and prepared the way, so to speak, for the establishment of this association. The next day it was organized. I think that Dr. George Brown, of Barre, came in the next day, but my recollection is that there were only six of us at the preliminary meeting. All the men at that meeting are gone but myself. We had little idea then of the magnitude of the work, very little idea. I am very glad to be here with you to-day. I am not very well but I thought some little account of the original organization of the association might prove interesting.

AIDS IN ADMINISTRATION.

The President: This was a pleasure, that, like many other good things of life, "did not appear on the program." We will now listen to "Some Aids in Administration," by Professor. E. R. Johnstone, of Vineland.

Mr. Johnstone: When I sent Dr. Rogers the title for my talk, "Some Aids in Administration," it was a nice day, things had been going well in our school and I was feeling pretty good, and this seemed a very good thing! When I thought the matter over, however

and realized that I was coming before a lot of institution superintendents—each one having his own methods, a little bit better than any other fellow's, or he would have discarded them long ago—then I began to realize that for nearly the “kid” of the association, I was assuming a pretty heavy burden. But I am going to tell of a few things that I have tried, myself, and found a help, not so much with the idea of telling anything new but to arouse a discussion that may lead to suggestions that will be of aid to all of us. There is no man in this work who is not doing things a little differently from everyone else, —some little thing, perhaps, and I think, by speaking of some of these things we are doing, we may get ideas of value to all. I may confess, since I am so far away from home, that I like to visit other institutions and steal their good things and pass them along as my own. My suggestions are all in the line of making things easy so that I may sit comfortably in my office chair and do nothing but watch other people do my work. I was brought up in the Indiana institution under Alexander Johnson, and wherever I went I was in his shadow. I could not get out of his shadow, literally or figuratively. It struck me then that if the head of an institution is too much the head, the institution is always limited by his powers and personality. In our institution, I always try to get for heads of departments, people eminent in their own field,—people who know more about their particular line than I could ever hope to. When some of our department heads do something particularly good and wonderful, I go out and brag about it and get the credit of doing it. I want to call attention to one or two of the things that have helped me, then I pass them along.

THE MEM-INDEX.

The first thing I want to speak of is the mem-index, a little pocket case in which you can carry two weeks' cards. I am not advertising this but it is the best thing of the kind I know of. I have used something of the sort for four or five years. There is a case to stand on your desk, holding 365 cards, except for the fourteen or fifteen you carry with you. I have here a week's cards, the week of January 7th. On these cards the items checked go on the cards from year to year. The clerk takes the year's cards and simply writes down for the new year all the items checked. There are many things we all

do and think we are always going to do. But there comes a change in the office, perhaps, and these things are forgotten until they come up again and we say to ourselves we should have done this at such a time. It has simply been forgotten. Now, with the mem-index, you have it on the card, and when you look over the cards each morning, you see these notes—I will quote some of the entries on my cards:

“Farmers’ meeting, Monday night.”

“Civic Club meeting (once a month.)”

“Some good quotations.”

It is our custom to put good quotations on our bulletin board occasionally and this reminds me whenever I find this on a card, about three times a year, to look up some good quotation and have it put on our bulletin board.

“What boys are getting into new buildings between Saturday and Monday?”

In a new building being erected, I found the walls daubed with paint, and evidence that some children had been getting into the building. This note was to remind me to investigate and find out what supervisor had been neglecting his duty. You see, the cards are simply like a scratch pad on which you jot down all sorts of notes and memoranda. For instance, I put down on the card when I was to start for Waverley, when the boat left New York, etc.

“Take note of work to be done preparatory for the annual meeting.”

This note on Jan. 8th, reminds me that our annual meeting comes in June. It is a good thing to remember that you have an annual meeting six months hence so that you may get things in line for it.

“Fire inspection reported.”

Instead of having fire-drill, certain people have it in charge to make, at stated times, inspection of apparatus, etc., and send a written report to the assistant superintendant, who makes a report to me.

“Executive meeting.”

“Reports on children.”

Every six months for the first two years a child is at the school, a written report is made as to progress, etc. After that, reports are made when considered necessary by the principal or psychologist.

“Bed Bugs.”

I wonder if none of the other institutions have trouble with bed-bugs, etc.? We have, and we find that if this matter is not followed right up, they are everywhere in short order.

"Is.....getting the massage suggested?"

It has been suggested that a certain child would benefit by massage. Massage is ordered and I make a note on my cards, for say three months ahead, to inquire whether the order has been carried out. In this way, with very little effort on my part, necessary things are attended to.

The next thing I have found of value is the posting of bulletins on our bulletin boards. We have, perhaps, three or four a week, or even more. Our bulletins are not the usual critical bulletins. I do not believe in criticising in this way. I believe the proper way to criticise is not to call a person into the office, but to go to him and say what is necessary.

I picked out a bunch of bulletins just to show you how they run:

"133. As the teachers have a much better opportunity to study the children than others, there will be two sets of awards given: To the teachers only, \$3.00, \$2.00, \$1.00. To all others, \$4.00, \$3.00, \$2.50, \$2.00, \$1.00."

"134. Any suggestions as to children becoming especially useful and possibly becoming well enough trained to be classed as assistants either in school, shop, farm or cottage, will be received with pleasure. Often children show special helpfulness in certain things and we are glad to know it. Do not hesitate to report such things."

We have a system of assistants which we find helpful. One of the little girls is a kindergarten assistant. She has a half dozen at one side of the room, and there she is "boss." She directs the children just as she wishes. The kindergarten teacher, at the other side of the room, has her own work going on at the same time. The same thing applies to the boys. Certain boys, who have been trained and show their ability, are assistants in various lines of work, are given responsibility. We have "helpers" also, but the helpers do as someone else says, while the "assistants" do as they choose.

"135. I wish everyone would try for at least one week, beginning May 5th, the following:

1. No matter what anyone does, look carefully into it and see if you cannot find some good points in it.
2. When you tell anyone of what someone else has done, tell only the good side of it.
3. When you talk about anyone or anything, say only what is good. I think you will find that others begin at once to find the good in you and your doings and so it becomes helpful instead of discouraging."

"136. Be sure that all instructions regarding medicine, special diets, etc., are carefully carried out. If you are in doubt, do not make any change without first seeing the physician."

"137. Groves to be used by the various groups."

We have no great groves of old trees and so our few small groves have to be parcelled out, each grove being assigned to certain times, that all may enjoy them.

"138. Donkey team—

Seguin, Monday afternoon.

Wilbur, Tuesday afternoon.

Moore, Wednesday afternoon.

Itard, Thursday afternoon.

Hospital, Friday afternoon.

On Saturday, the team will run all the afternoon."

"139. Flowers may be picked by children only by special permission, with some one responsible, with them. The heads of departments will tell you which beds are set aside for picking flowers. The others are for ornament to the grounds and the flowers therein are not to be disturbed."

"140. The examination of children for classification will not close until May 31st, owing to the number of requests for longer time. See Bulletin, No. 133, for information regarding classification."

"141. If it is necessary to find fault with a child, do it fully and firmly, and let that be the end to it. Nothing will make your discipline harder to maintain than to get your children accustomed to nagging and fault-finding."

"142. Have you read, "A message to Garcia"? If not, ask for a copy at the office. It is worth reading. Glance over it

again if you have read it,—it is helpful and instructive.”

I read these to give you a general idea of the tone of our bulletins. I think No. 141 applies to adults as well as children. I believe praise does more good than criticism anyhow. When you call a person down he is not thinking of what good he can get from what you say, but he is absorbed in trying to find excuses for himself,—sixty per cent. doing that and thirty-five per cent. calling you down and only five per cent. trying to do better. All people have something good about them—even if nine points are bad there is one point good. The fellow who said that “more flies were caught with molasses than with vinegar,” must have been an institution superintendent!

The third point we find helpful is notebooks. Every institution finds some form of records necessary. Many use the regular form of report from the heads of departments and then keep these on file. The weak point of that has always seemed to me to be that so few of the people keeping the record knew what they were driving at. The superintendent could not direct the policy of the institution without going over every part of it day by day. Instead of having blanks we have notebooks and find this works very nicely. The daily report is entered in a notebook which is seen by the head of the department and then comes to me. In this I write with a blue pencil such comments as I wish and outline my personal policy. I always approve the things I agree with and say nothing about the others. Everyone wants to see something in his notebook approved and soon works into the line of my thought. With the aid of the notebooks and blue pencil, I can sit in my office and see things falling right into the line of my policy. The supervisors make out reports in the same way. The heads of departments make out daily notebooks which are handed to me each morning and this enables me to direct the policy of the institution along the various lines. The comments written are always encouraging. “Good!” “First-class!” etc.

Someone says that in dealing with feeble-minded children you must lead them you cannot drive them. I think this applies exactly to all of us. We can all be led cheerfully, nicely and easily, if only it is not made too obvious that we are being led. Every employee in our institution gets access to the superintendent through these notebooks without having to come personally and take up valuable time

talking all around a subject. He can ask for a personal hearing, if necessary, although I have not found it necessary for at least three or four years. A moment or two of chat on the sidewalk, perhaps, saves many minutes of the superintendent's time. When they have to reduce things to writing it has a tendency to simplify matters and saves many complaints, etc.

MEETINGS.

Another thing we have found helpful is our system of meetings. We have employees' meetings about five times a year. At these meetings I simply brag about what a fine training school we have, what a fine institution it is, and how much better it is than any other institution. I never return from a visit to another institution without telling how much superior our own institution is. I emphasize this so strongly that they all end by believing it and trying harder to keep up this standard. I often notice new employees looking rather blank when they leave one of our meetings. They are amazed to find that it is not given to criticism, but to praise. I remember hearing the superintendent of one of the southern institutions who is not here today, say, in answer to an inquiry, "Discharge a lady? No, Sir! I am too much of a southerner to discharge a lady!" It seems to me that this attitude might prove more advantageous than the critical one!

ATTENDANTS' MEETINGS.

Once a week during the winter months, running say, from November to April, we have a meeting of those in direct charge of the children, addressed by heads of departments,—say six or eight different people—who talk of matters appertaining to their specialty,—feeding, bathing, the common things of daily life, etc.

FARMERS' MEETINGS.

Once a month we have a farmers' meeting. The property of the institution is not taxed, and for many years the farmers did not like it. By having farmers' meetings and inviting the neighbors, the institution has come to be a sort of experiment station and they have changed their attitude towards us.

POINTS.

Another experiment we have tried with very good results is the

giving of points. I got the idea from the Wabash railroad. When a new employee comes to the institution he is given ten points to start with. Each morning, at the executive meeting, the question is asked whether there are any points this morning. Perhaps some one says, "I would like to have.....lose a point for carelessness in letting children wander away". I keep the records of these points on slips of paper. These slips bear each person's name, the date, why each point is given or taken away. The records are kept in envelopes in my desk. This is one instance where I do the work myself! It is no one's business but that of the employee concerned and myself. Anyone is at liberty to ask permission to see his or her own envelope showing the credits received or lost. For instance, during the past week, three or four people have come to me and said, "may I see my record, please?" It is understood that the heads of departments shall notify the people in their departments of points lost or won, but people do not always remember just how their record stands. Within a short time of any carelessness, etc., the person concerned is sure to turn up and ask to see his record, and thus the system has a very good effect.

AWARDS.

Another thing we have found very helpful is our awards. At the end of the month, there is apt to be a little money left on the salary roll, in one way and another, people have been away for a while, etc., and our trustees have authorized me to use this money as extras. Three points gained at the end of the month means an extra dollar in the pay envelope. That dollar is worth a raise in salary in its effect, and you save the raise for the other eleven months!

DIPLOMAS.

These diplomas are granted "for institutional efficiency". We have to get all our help from employment agencies. Being in New Jersey, quite convenient to New York, etc., it is not easy to get good people. One agency manager said to me, "If you could only have something a little different it might help us in getting people for you." Someone suggested diplomas and we thought it would be a good scheme. We have been giving diplomas now for four years. They are given on this basis—say a diploma for efficiency as institution cook:

Loyalty to institution	10 points.
Loyalty to officers	10 points.
Physical condition of children in her care.....	8 points.
Morals and manners of children under her care.....	7 points.
General appearance of children under her care.....	6 points.
Ability to train children.....	8 points.
Ability to entertain children	5 points.
(That is, do the children like to be with her or are they reluctant to go to the kitchen?)	
Ability with special cases.....	4 points.
(That is, can we send to the kitchen children who need special attention.)	
Ability to learn.....	6 points.
(Has she to be told things twenty times over?)	
Willingness in emergency.....	6 points.
Willingness to receive instruction.....	7 points.
(There is a great difference between ability and willingness.)	
Care of surroundings.....	8 points.
Personal neatness.....	5 points.

Last Monday night at our employees' meeting, we granted diplomas to a cook, to a teacher, to an attendant, to a fireman, to a supervisor. One man, to whom we gave a diploma as a market gardener, recently came to me with tears in his eyes and shook hands, saying, "That's the first time in my life I ever got anything like that!" Money is not in it with this sort of thing for one minute. As a great aid in institution administration, let me recommend the diploma for institutional efficiency, the award, and the points.

MORNING ASSEMBLY OF CHILDREN.

At the morning assembly every child who can get into the hall comes, except the very lowest grades of all. They sing and listen to Uncle Remus stories, etc.

EXECUTIVE MEETING.

Immediately after the morning assembly we have what is called executive meeting which lasts twenty minutes and at which the superintendent meets the heads of departments. Our form of ad-

ministration is a little different from anything else in this country. The physicians are responsible for their own duties. The head of the industrial department is, in my absence, the assistant superintendent. When I am at home, he is simply the head of the industrial department. At this morning meeting, the superintendent meets the head of the industrial department, the head of the school department, the physicians, the psychologist, the housekeeper in charge of food supplies, the housekeeper in charge of clothing, etc., the foreman of the farm. These are known as "executive heads" and each one has authority in his own department, absolute authority. If he does not want an employee in his department, he discharges him. If he wants to get someone else in his department, he gets him, or rather, he tells me he wishes this person, and he is hired. Each executive head has full authority in his or her own department. At the meeting each morning they all get together for twenty minutes. Then each can go about his particular business and leave me to draw my salary at the end of the month for doing nothing.

The usual program at these executive meetings is about as follows:

1. Reports on children.

At this time anything about any child that may be of special interest is reported.

2. Reading of notebooks that come in from attendants.

3. Mem-Index.

4. Reports of employees.

I may say that I keep a card record of each of our employees. This is kept in a drawer of my desk and from time to time a little off-hand report is made. The cards are kept going, a few each day, and as a result, about once in three months every head of a department gives a few moments' thought to each employee, as to his good points, bad points, etc.

5. Awards.

I say, "Who has something to award this morning? Who has done something especially good for which he should have a point?" I go around to the department heads asking each one, "What have you to report of your department people?"

6. Progress of department.

Then I question each department head as to what he has to report of his department of interest to all of us. This is like the salesman's report in the big department store. You can, perhaps, manufacture something to report once or twice, but where you have to report six days in the week, fifty-two weeks in the year, you have to do something in order to make a report.

7. Committee reports.

If anything comes up that calls for decision, instead of settling it myself, I appoint a committee to look into the matter and bring it up at the next meeting.

8. What have you or anyone to offer for the good of the institution?

9. Miscellaneous.

INSTITUTION BIRTHDAYS.

When I was a little fellow, working in a store, Saturdays, to earn a little pocket money, one day my employer called me to him and said, "You have been here a year to-day. Here's a half-dollar extra for you." I have never forgotten this. In our institution, after anyone has been employed there for two years, I make a note in my mem-index. When I find this entry in going over the mem-index I sit down and write a little birthday letter, saying, "You have been here two years to-day," and then go on to say nice things about him, making up a few, if necessary, and wind up, "As a birthday present, I wish you would take one day to do as you please."

Last of all I want to speak of a number of little things that go to make up the spirit of the institution. Our men have a clubroom, given by the Board of Lady Visitors. They do not have anything to do with the work of the institution. I do not believe in having women on the board of trustees,—in fact, I think they are very great nuisances there. We have a separate Board of Lady Visitors and keep them busy and they are the greatest thing you ever saw. This board has given the school a merry-go-round, clubroom for the men, etc., etc. At the clubroom the men play pool, billiards, etc., and it provides a very good meeting-place for them. They have Ladies' Nights, and an invitation to these is eagerly sought.

SPECIAL PRIVILEGES.

If you tell a person that he must do a thing, he, of course, does not

want to do it; but if you say, "You may do" something, it has a tendency to make you want to do it. I tried once, in Indiana, to make a large, feeble-minded youth do something he did not want to do. When we got through I was a fit subject for the hospital and I concluded then and there that diplomacy rather than force was the right thing. For instance, if some one says, "We might be able to arrange this, if you want to do it very much," it works like a charm, but as soon as you say, "You must," it arouses the spirit of antagonism. With, "perhaps you may," I have been able to work all sorts of things. I have told elsewhere of our store, morning assembly. The little morning assembly, coming between the morning housework and the other work of that kind, and the school classes, makes a nice break for the children. If they go directly to school from work, they carry into the classroom the troubles and worries of their work. At this gathering, where they sing, laugh, listen to stories, etc., they are all made cheerful and go on to the next thing in a much happier mood.

DO YOU BELONG?

We say we have a little secret society in which the password is, "We belong," and the signal is a smile. Wherever we go about the school, if anyone looks cross or sad, someone is sure to look at you and smile in your face, saying, "Do you belong?" and you simply have to smile back because you are just as human as they are.

DISCUSSION ON DR. BERNSTEIN'S PAPER.

Dr. Bernstein followed with a paper on Training Schools for Attendants, (see page 31) and after reading same made the following remarks: We hope by offering this training course for attendants not only to benefit the attendants but to get better service in the hospital. An ordinary attendant will come into an institution, read over the rules and regulations and perhaps try to carry out some of them. You can give them as many special directions as you like. You will find them following these directions for a few days or weeks, and occasionally even longer, but they do it without any special object. The attendants in training will have a special object other than the small compensation we offer. Some institutions have abandoned their training-classes for attendants because the attendants have afterwards taken up outside work. I feel that we should not be selfish about this, but that

we should be willing to have our attendants take up the outside care of the physically infirm or mentally feeble. Many people do not feel like paying \$25 or \$30 per week for a trained nurse but they would be willing to pay \$12 or \$15 per week to an attendant trained to give them the care they need, and who would give them, to the degree they need, just as good care as a trained nurse. During the past few years a number of attendants have left us to care for feeble-minded children outside. We have recently had a request for a man and wife to care for a feeble-minded child. The parents are wealthy and they desire to purchase a farm where the child and his attendants would live. The State Department of Education in New York recognises the need of this work and has granted us a charter as outlined in my paper.

The President: This work seems to me most excellent. It should be only one of many training schools in that line. Every state in the Union needs just the work being done at Rome.

Dr. Fernald: I consider Dr. Bernstein's paper a very pertinent one. For several years we have had under consideration the question of a training school here. The report of the State Board of Insanity shows that last year, in Massachusetts institutions, the force of attendants changed on an average four times. With 100 attendants at the beginning of the year, this meant that in twelve months over four hundred people have been employed in one institution. In one institution the force of attendants changed six and one-half times. Of course this represents a great waste of time and effort and involves an enormous amount of inefficient care of feeble-minded children.

The attendants are the most necessary and most important officers in an institution. They have the children in their care the greater part of every day, and the life and happiness of the child is in the hands of the attendants. If our children are kept well, physically, it is because our attendants are doing their work well, and yet, after sixty years, Dr. Bernstein's institution is, so far as I know, the only one where any effort is being made to systematically train young men and young women for this important work.

We have outlined a plan which I have not, as yet, been able to carry out because of the pressure of other things. Our trustees have heartily approved of this plan.

I do not believe a school for the feeble-minded is the place to make

trained nurses. How does it benefit an attendant in a school for the feeble-minded to know how many streptococci, etc., she can discover under the microscope? Training of that sort, it seems to me, unfits good women to be attendants.

We propose to have our attendants come on one month's probation. If satisfactory, they then begin the regular training. I believe one year of training is enough. I do not think the course should be over one year and at the end of that time a diploma should be given if the attendant has proved worthy of it. I do not think they should be trained for outside service or for caring for invalids especially, but I do feel that training should be planned to fit them to do properly the work the institution has to do.

Attendants are a very much underpaid class. Our scheme of wages for female attendants is \$18 per month; at the end of six months, \$20; at the end of two years, \$21; then each year an additional \$1 per month until a maximum of \$25 is reached. I believe that proper training of this sort will lessen the number of attendants needed in an institution. I believe, also, that the better care given will justify a better wage at the end of the training and this would increase the efficiency of the institution by enabling us to retain the services of our best people instead of losing them as we do now.

As we have outlined it, the attendant in our course of training would begin with the study of the feeble-minded child, just as we now have the students of the medical schools do. That is, the pupil in training would be shown groups of children, illustrating different forms and degrees of mental defect and given instruction forms in regard to the needs of that particular group. They would be told the limitations of each group, methods of caring for each particular type, etc. I believe in doing this in a practical way without a lot of medical, psychological or pedagogic theories.

We believe here in training attendants to act as assistants in different lines of our work. This training is given by the specialist in that particular line. We have carried this out to a certain extent already. The low grade children you saw at the West Building are cared for by trained assistants who have been under the supervision and instruction of our physical director. At the 9 o'clock class, two attendants act as assistants; with the 10 o'clock class, two more

come on duty, etc. In this way we have at least a dozen attendants who have been given this training. The attendants become greatly interested in this work and are fascinated by it.

The other special teachers have different attendants who bring classes to them and then remain to assist in the work. This is done in our manual-training department, industrial-training department, hand-work department, etc. We have at this time some twelve or fifteen trained assistants all highly trained in their particular branch. From these trained assistants, trained by the specialists, information in regard to the work radiates to other attendants. Our attendants feel complimented if they are selected to take classes to these special teachers. They feel that they are assistant trainers and are pleased to be selected for such positions.

When I look back and think that during my twenty years of service I have had to deal with 5000 or 6000 attendants, I feel sure that, as a class, these young ladies have left our school better fitted as wives and mothers; that their children have received a higher standard of care than would have been the case if they had not had our training. When I think how much more we might have done, how much better fitted they might have been if we had been able to carry out our plans, I feel that we have much to do in teaching the principles of ordinary nursing, the practical details of hygiene and sanitation, etc. I do not believe we ought to make trained nurses of them. I do not believe we ought to try to compete with the training-school nurses.

Dr. Rogers: I am heartily in sympathy with Dr. Fernald's remarks on the plan outlined by Dr. Bernstein. Some points have occurred to me in connection with this matter. Our training school started eight years ago. Our physicians spent a great deal of time on anatomy and physiology and found it very difficult indeed to get the young ladies and gentlemen who are acting as attendants, to become very much interested in the subjects as presented in lectures. As a rule, these young people had not received much education in the public schools. We get very few who have had any high-school training, and the young people who come to us from the grammar grades have not had the mental discipline which would enable them to get much value from lectures. This shows the necessity of having the course just as simple as possible and as practical as possible. It occurs to me

that to successfully carry out such a course as Dr. Bernstein has outlined would call for attendants who have a higher standard of education and who have received more mental discipline in the public schools or elsewhere. Another difficulty we found was in interesting young men in these classes. Two or three of the very best attendants we have among the men could get absolutely nothing in the training classes. They could not answer correctly one question in fifty. I have in mind one young man, who is, I think, the best man we have ever had—the most trustworthy with the boys, most interested in the care of them, the best man in his understanding of the boys and in his ability to teach them habits of decorum and deportment. This young man could get absolutely nothing from the training-class work. Shortly after the organization of one training class I was talking to one of Dr. Richardson's assistants at Washington, of their training class, and he told me they had given up entirely the giving of diplomas to men. They simply selected such men as appeared to be suitable for the work, gave them all the advice they could from day to day, but had no training class for them. It does not seem that this should be so, but I am simply giving you the results of my observations and experience. I believe thoroughly in the training classes for women, and if found practicable, for men. Fifteen of our pupils have received their diplomas and are doing excellent work.

Another thing Dr. Bernstein suggests that we were never able to carry out, but which I would like to see done—is to change attendants from one class of cases to another, from one kind of work to another. We found so much objection to this that we did not try to carry it out, but I think it would be a splendid thing to have the attendants become familiar with the care of different classes of children.

We also tried a cooking class for attendants but never made a success of it. I shall watch Dr. Bernstein's experiment with considerable interest and hope that he may be successful. It will be a stimulus to the rest of us and encourage some of us to try it again.

OTHER PROCEEDINGS.

At the evening session of the first day's meeting, a paper by Dr. Carson, on The Mongolian Type, was read by Dr. Keating. Following this, a paper by Dr. E. G. Brackett, of Boston, on Operative Treatment of Spastic Deformities in Feeble-Minded Children, was

read. (Page 13, Vol. XI.) Discussion by Drs. Fernald, Bernstein, Mr. Johnstone, and Dr. Brackett.

The morning of June 6th was devoted to visitation of the custodial training department where the children were engaged in weaving, braiding, shoe-repairing, and random work. At 11:15, A. M., the association again assembled and listened to the following papers: Reading and Language, Miss Miner; A Child Who Hears, yet Cannot Talk, Miss Bancroft; Methods of Speech Development, Miss Boyd; Special Classes for Mentally Defective Children in the Boston Public Schools, Dr. Lincoln.

At the afternoon session the association listened to a paper by Professor Naomi Nosworthy, of Columbia College, New York City, on Suggestions Concerning the Psychology of Mentally Deficient Children. (Page 3.) This was followed by a paper on Psychological Work among the Feeble-Minded, by Dr. Henry H. Goddard, Vineland, N. J., (Page 18.) and Dr. J. J. Thomas, of Boston, read a paper on Some Cases of Mental Defect from an Out-Patient Clinic. In the evening, Dr. E. W. Taylor, of Boston, presented a Demonstration of a Series of Defective Brains and Dr. Fernald followed with the exhibition of an interesting set of slides showing classes of Mongolians, cretins, and other distinct types of the feeble-minded.

The assembly hall was then transformed into a gymnasium and the children of the school, under the direction of teachers, gave a very interesting series of athletic exercises.

On June 7th, by special arrangement, the express on the Fitchburg road carried a special car for the accommodation of about thirty members of the association who were bound for the Farm Colony at Templeton. A drive was made to the Colony group and dinner served at the Eliot group, after a visit to the farm home and to the Narragansett group.

A short session was held at Eliot for report of the committees. The committee on organization reported as follows: For president, Dr. Bernstein; for vice president, Miss Mattie Gundry; for secretary and treasurer, Dr. A. C. Rogers; for editor, Journal of Psycho-Asthenics, Dr. A. C. Rogers who was authorized to select his own associates.

It was recommended that the association consider the question of the publication of the Journal as an annual.

The following list of additional members was also voted upon: Dr. Henry H. Goddard, associate, Vineland, N. J.; Dr. W. F. Gleason, associate, Providence, R. I.; Miss Alice Shovelton, associate, Newton, Mass.; Mrs. E. M. Barrett, active, Austin, Texas; Miss Fannie King, active, Orange, N. J.; Dr. J. W. Hering, honorary, Westminster, Md.

Dr. Beaton moved a vote of thanks to Dr. and Mrs. Fernald and the trustees, for their generous hospitality and the motion was seconded by Mr. Johnstone who made felicitous remarks appropriate to the occasion.

The association then adjourned to meet the following year.

TREASURER'S REPORT, 1906-1907.

Cash Dr.

Balance on hand, June, 1906.....	\$218.14
To cash Dues, 1903	5.00
“ “ “ 1904	10.00
“ “ “ 1905	35.00
“ “ “ 1906	10.00
“ “ Sale of Decen. Volume	2.25
“ “ “ of Journals	60.60
	<u>\$340.99</u>

Cash Cr.

By Engraving (cuts)	18.00
“ Stock and envelopes	31.12
“ Binding of Journals	6.50
“ Postage and exchange.....	2.20
	<u>\$57.82</u>
Balance on hand	283.17
	<u>\$340.99</u>

BOOK REVIEWS.

COSMETIC SURGERY.—The Correction of featural imperfections. By Charles C. Miller, M. D. Published by the author, 70 State St., Chicago, Ill.

Since there is a demand for skillful featural surgeons, the author has deemed it expedient to give the results of his experience to the profession. It includes the description of a variety of operations for improving the appearance of the face. There are seventy-three illustrations. It is recommended to the attention of those interested in such work.

A NON-SURGICAL TREATISE ON DISEASES OF THE PROSTATE GLAND AND ADNEXA.—By George W. Overall, A. B., M. D. Third edition. Rowe Publishing Co., Chicago, Ill.

The third edition follows within less than a year the second edition of this work. The author's aim is to aid "in the non-operative treatment of all those chronic diseases of the urethra, prostate, bladder, vesicles, kidneys and their complications." In this edition he has attempted to make especially clear his method of treatment. After a short chapter on anatomy and physiology the author takes up the subjects of acute prostatitis, chronic prostatitis, congested enlargement of the prostate, seminal vesicles, hypertrophy of the prostate and neurosis of the prostate. The author has devised several instruments whose use in the treatment he describes fully. Electricity he finds a very useful method of treatment and has added an appendix on electro-physics, cataphoresis and high frequency currents.

ANATOMY OF THE BRAIN AND SPINAL CORD WITH SPECIAL REFERENCE TO MECHANISM AND FUNCTION.—By Harris E. Santee, M. D., Ph. D., Professor of Anatomy in the College of Physicians and Surgeons, Medical Department, University of Illinois. Fourth edition. Revised and enlarged. P. Blakiston's Son & Co. Philadelphia. \$4.00.

This book has been designed for a text-book and takes up the subject matter in the order most convenient for the dissector. "Particular emphasis is laid upon the origin, course, termination, and function of the conduction paths as they are met in the regular study, and the more important and better known of these paths are summed

up in a final chapter on the tracing of impulses." Function is everywhere correlated with structure. The book is well illustrated, some illustrations being in color; while a number of them are original, many are taken from standard works on the subject. The work is a most excellent treatise and is recommended to all those seeking a work on the subject.

HANDBOOK FOR ATTENDANTS ON THE INSANE.—Fourth edition. W. T. Keener & Co. Chicago., \$0.80.

This book is prepared by a committee of and published by the authority of the Medico-Psychological Association of Great Britain. In its preparation it was "sought to give attendants such simple notions of the body and mind in health and disease, such instructions for the management of those maladies with which they are usually brought in contact, and such rules for their guidance in matters of every day experience, as will enable them to do their work with greater intelligence and watchfulness". It is the official handbook of the association by which the attendants are to be trained and upon which they are to be examined for the certificate of proficiency. It is a most excellent little book and is recommended to all those in need of such a treatise.

MORRIS'S HUMAN ANATOMY.—Part III. The nervous system. organs of special sense. Fourth edition. P. Blakiston's Son & Co., Philadelphia. \$1.50

This book needs no commendation from us. A very commendable feature is that the work is now issued in five parts adding greatly to the convenience and comfort of those who use it. Another good feature is the use of the BNA nomenclature. This edition has been placed largely in the hands of American anatomists, this part being revised and largely rewritten by Irving Hardesty, the section on special sense being revised by Abram T. Kerr and R. Marcus Gunn. The illustrations are numerous and excellent. So far as we have been able to judge, the work has been well done and this edition should increase the favor in which the work has been held.

UNCONSCIOUS THERAPEUTICS, OR THE PERSONALITY OF THE PHYSICIAN.—By Alfred T. Schofield, M. D. Second edition. Blakiston's Son & Co., Philadelphia. \$1.50.

The fact that this book has reached a second edition shows that there is a demand for such a work. The author's thesis is that the personality of the physician is a powerful factor both for the welfare of his patients and for his own success. Emphasizing the importance of surroundings, manner and conduct, it could be read with profit by most of us. It shows the value of a therapeutic measure that is too little used by most physicians.

PRACTICAL DIETETICS, WITH REFERENCE TO DIET IN DISEASE.—By Alida Frances Pattee, Special Lecturer at Bellevue Training School for Nurses, New York City. Third edition. A. F. Pattee, New York.

This is one of the most practical books on the subject treated that has appeared. The book can be divided into three sections. The first embraces such subjects as the classification of food; general rules for feeding the sick; the preparation of a patient's tray, and tables of weights and measures. The second section consists of receipts and formulae for the preparation of almost every known variety of food used in the sick room. The third section presents in a compact way the dietaries which are of use in the commoner diseases. There is also an appendix containing practical suggestions for the nurse in the sick room and more tables of weights and measures. This book, although small, covers the field of diet in sickness very completely. The directions for the preparation of the various dishes, and, in fact, all directions, are exceedingly plain and clear. It is not too much to say that the book ought to be in the hands of every trained nurse, if not of every house-wife.

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ORIGINAL ARTICLES

THE PHYSIOLOGICAL SIGNIFICANCE OF THAT FIRST LESSON.

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On a bright summer day in the early sixties, I took advantage of a leisure hour or two in Syracuse to visit that anomaly among the charitable institutions of the state of New York—a school for the instruction of idiots. The very purposes of the institution—the education of idiots—seemed then to be an unanswerable argument against its existence. Its founder, Dr. Hervey B. Wilbur, had encountered great opposition on this very ground that no one believed it possible to teach idiots sufficiently to make the creation of an institution for that purpose justifiable by the legislature. The institution finally took the more appropriate title, The Custodial Asylum for Feeble-Minded.

While crossing the lawn I noticed, casually, a group of young men engaged in making hay. On entering the administrative building I found Dr. Wilbur actively employed with his daily duties and I

introduced myself as the editor of the American Medical Times and explained that I was desirous of obtaining, by personal observation, information as to the success of the institution in teaching idiots. On this announcement the doctor's interest in my visit was aroused and he became very communicative in regard to every feature of his work. We examined every part of the asylum and saw all of the inmates in their several departments and classes. It would be impossible to conceive of what appeared to me to be a more hopeless and repulsive task than teaching many of the mere vegetating objects which I saw. Incidentally I suggested the impossibility of teaching these children to become active and intelligent workers like the young men making hay on the lawn.

"Why, my dear sir," he replied, "those young men are all idiots but the attendant whom I presume you did not recognize from the others; some of them were as bad and hopeless as the worst you have seen in the asylum."

I could not conceal my skepticism and remarked that I regarded it as impossible to make a first impression on many of the inmates.

"That is the mistake of the world in its treatment of idiots," he replied, "until in these later years when we have learned how to teach the first lesson, and on that first lesson the whole system of educating the idiot depends. Come into the class room and I will give you a demonstration of the first lesson and its effects and results."

We went, accordingly, into the class room of the primary inmates, some of whom had been admitted so recently that he knew nothing of their physical or mental condition. He requested me to select one of the latter class who was unknown to him, for a first lesson. I selected a boy who sat on the floor drooling from his open mouth and swaying his body but seemed insensible to anything about him, and, as the attendant assured me, had to have the food placed in his mouth.

The doctor took a dumb-bell and, placing it on the floor by the side of the boy, fixed his hand on the shaft with the fingers closed around it. Then, taking another dumb-bell and standing in front of the boy, the doctor raised his instrument high in the air and deliberately struck the dumb-bell on which the boy's hand was placed. The boy was startled by the concussion but made no other sign of re-

cognition of the blow. The doctor repeated the act twice more with the same result.

"This is the first lesson," the doctor remarked, "and he is a very promising student with great possibilities. Now let me show you a boy of the same grade who has been under instruction six months with two such lessons daily."

The second boy was the type of the first and on the trial he raised his hand from the dumb-bell when it was struck by the doctor and his eyes from the floor. A third boy had been under treatment over one year. He watched the doctor's movements and when he saw the blow descending raised his hand and laughed. A fourth boy was tried who was now in one of the graded classes. When the doctor took the dumb-bell and handed the boy another, the boy rushed at the doctor and for several minutes there was a clash of weapons, the boy showing great dexterity and immense enjoyment in the contest.

In the discussion of his method of teaching the feeble-minded, Dr. Wilbur laid great stress upon the significance of the first lesson. His explanation, as I recall it, was to the effect that the idiot had a dormant nervous system; that the first step in the process of educating such a person was to arouse the brain to activity; that the best method of making a first impression was through the sense of feeling; and that the shock communicated by a metallic substance through the sensitive surface of the hand was the most effective method. His argument was that if one special sense of the nervous system can be aroused to activity, other special senses will be excited, and finally the whole brain will become receptive of external impressions and the higher mental functions will be gradually developed.

In the light of our present knowledge of the minute anatomy of the nervous system and the physiological functions of its constituent parts, Dr. Wilbur's method of teaching the idiot was founded on strictly scientific principles. Undoubtedly he did not understand the full significance of his own reasoning, for our knowledge of the structure or minute anatomy of the nervous system, fifty years ago, was little more than of its gross appearances. We had learned that its elements consisted of grey and white matter; that the grey matter was composed of cells and the white matter of

fibres. The physiology of that period taught us little more than that the cells generated the nervous force, or energy, and that the fibres, or nerves, conveyed impressions, or impulses, to and from the cells. It quite naturally occurred to a thoughtful mind like Wilbur's, that the idiot was in an inert, or dormant state owing to the absence of a stimulus sufficiently powerful to arouse it to activity; if that stimulus could be properly applied through one of the special senses—seeing, hearing, feeling, smelling, tasting—the idiot could be taught like any other child. He chose the sense of feeling with the remarkable results that followed. Had he known the full significance of that first lesson in the light of modern scientific discoveries of the intimate structure of the brain, its immense number of functional centres and their relations, his work would have been invested with a new interest and greater precision.

And what does modern physiology teach as to the structure and functions of the nervous system? In other words, what is the physiological significance of the first lesson?

Let us first notice the minute anatomy of the nervous system as at present taught. Though the most complicated mechanism known to science, yet, except its connective-tissue skeleton, or frame-work (neuroglia), the entire nervous system consists of but a single body or tissue, the neuron, a cell with its branches. What has heretofore been known as nerves are but prolongations of the central cells by means of which they communicate with all parts of the body and with each other. The cell, therefore, is the subject of the most profound interest to every one who is a student of the diseases of the nervous system. Its vast importance may be learned from the following statements of eminent physiologists:

The cell is a unified organism, a self-contained living being.

The sole active principle in every vital function.

The medium of sensation, will and even thought—the highest of the psychic functions.

Our own body is a very elaborate social system of countless microscopic organisms; a colony or commonwealth made up of innumerable independent units.

Confining our discussion to the brain cells, now better known as

neurons, we learn that they are implanted at birth, in a rudimentary state, and thousands of millions in number. The essential feature in the structure of the cell proper is the nucleus and its contents which have the function of creating the force or power known as nervous energy and nervous fluid, the exact nature of which is unknown. The nerve cell and its branch, the nerve, are often, and very properly, likened to the electric battery which generates the electricity, and the nerve, the wire which conveys it to its destination.

The anatomist teaches that these cells are grouped into centres according to their special functions, giving for the special senses centres of seeing, hearing, smelling, tasting and feeling. There are, also, centres for each organ of the body, as the tongue, the hand, the arm, the foot, and the leg. Comparatively few of these centres have as yet been accurately determined, but enough is known to prove that every function, every act, even every thought has its special centre in the cerebro-spinal axis. For the co-ordination of the operations of these innumerable centres, "the interior of the brain is a mass of connective nerve fibres," through which the most intimate relations of the nerve centres are maintained, thus securing the most perfect harmony in the functions of all of the organs of the body. These fibres are commissural, connecting the two hemispheres; projection, which project "upon the cortex of the brain the results of sensory stimuli upon the body;" and association, which "connect different convolutions in the same hemisphere." It is truly stated that, "Were it not for the existence of these fibres, perception, memory, and thought would be impossible. Our perception of a pear is incomplete until we have fused into one mental whole the sensations from tasting, smelling, seeing, touching and hearing the fruit fall from the tree."

Another important anatomical feature of the nerve centres is their arrangement. First, there are the centres of the special senses through which the individual communicates with the external world. This group is located at the base of the brain and is sometimes called the lower brain. The functions of these different centres are to receive the impressions and transmit them to another, higher series of centres, called the mid brain. The function of these centres is to take cognizance of the special character of each impression, that is, analyze it, and transmit it to the centre in a still higher grade, its conclusion.

This is called the higher brain, which it is, both in location, being in the frontal part of the cerebrum, and in function, being devoted to ideation, or thinking.

Without going farther into what would become tedious anatomic details, let us consider what the physiologist teaches in regard to the nerve cells, or neurons, and the nerve centres. First, we learn that the cells are implanted at birth in a rudimentary form and undergo an evolution from the cell of the lowest of animal life to the complex cell of the human brain. Though at birth the cell has been perfected so far as regards its structural adaptation to its special future function, yet it will remain in an inert state and undergo no further change or development until excited to activity by its special stimulant. For example, if a person is born blind the cells of the centre of sight will remain in a rudimentary state and undergo no further development until excited by their proper and only stimulus—light. The same is true of a large number of nerve centres which are in such immediate relation with the centre of sight that their functional activity depends upon the integrity of the latter. If now an operation is performed upon the eye and light reaches the cells of the centre of vision, an immediate change takes place; the cells begin to enlarge; the blood-supply is increased to meet their more active nutrition; all of the related nerve centres undergo similar changes as to activity and development.

The physiological facts in regard to the cells of the centre of seeing are the same in the centres of all the special senses—hearing, feeling, tasting, smelling,—through which the brain as a whole is stimulated to functional activity. It follows that in proportion to the integrity of the special senses is a human brain perfect, or, on the other hand, defective. It is also asserted as a physiological fact that if the apparatus by which each of the nerve centres of the five special senses receives impressions from the external world, were destroyed at birth, the thousands of millions of nerve cells of the brain would remain inert and undeveloped during the life-time of the individual. This fact leads the physiologist to believe that in the human brain there are large numbers of nerve cells that remain undeveloped because never excited to functional activity, and, also, that at any period of life, cells, hitherto inert may receive their proper stimulus and take on functional activity.

A second important feature of nerve cells, or neurons, is that they differ in individuals as to their susceptibility to impressions owing to a difference in their intimate texture. This difference is due to heredity, and admits of the same explanation as other examples of the transmissions of physical features from parents to child and differentiates persons, families, and even nations.

A third physiological feature of the nerve cell is that while it will develop and increase in size when functionally active, it will diminish in size, or atrophy, when at rest. For example, if the eyes were bandaged and no light were allowed to reach the ophthalmic centre for any given period, the cells of that centre would gradually shrink, or atrophy, and, provided the light were withheld for a sufficient length of time, they would return to their rudimentary condition. It follows that it is in the power of the individual, or of a person having control of him, to increase or diminish the activity and the integrity of nerve cells at will.

A fourth physiological fact is that, while the nerve cells derive their intimate structure on which their natural susceptibility depends, from heredity, or parentage, this susceptibility may be considerably increased or diminished by nutrition. In other words, we may withhold from the nerve cells the elements of nutrition on which their normal integrity depends and thus diminish their power and susceptibility, or we may supply them with nutritive materials equal to the natural demands of the cells and greatly increase, their force and susceptibility.

Summarizing these anatomical and physiological facts we may formulate the conclusions:

1. The cell is "the medium of sensation, will, and even thought—the highest of the psychic functions."
2. The intimate texture of the cell on which its susceptibility and capacity to perform its functions depends, is inherited but may be modified at will by proper exercise, nutrition, and conditions of environment.
3. The germ cell is implanted at birth and its subsequent development depends upon its stimulation to functional activity by its appropriate stimulus; that is, if it is not stimulated it will remain inert and undeveloped, thus making it

possible, by applying the appropriate stimulus, to bring into healthy activity cells long dormant.

4. When an active cell ceases to be stimulated it begins to diminish in size, atrophy, and will become inert as regards its function and will remain inactive until excited to activity by its special stimulant, showing that any class of cells may be reduced to an inert state and again restored to activity by withholding or supplying their appropriate stimulus.

Every cell has inherent in its constitution the power of selecting from the blood, substances for its nutrition and stimulation, and for which it has a "selective affinity." This feature in the constitution of the cell enables us, by means of the appropriate remedies, to increase, diminish or pervert its action.

The neuron—the nerve cell and its branches of communication—is the unit of the nervous system; there are thousands of millions of them and their specialized functions are the control of every organ and act of the body—"sensation, will and even thought."

In the structural arrangement of neurons they are grouped into centres according to their special functions; in these centres the cells communicate with each other by means of innumerable branches—dendrites—while the centres communicate with each other through nerve fibres known as commissures. In the grouping of these centres there is a perfectly logical and orderly series of sequences by which impressions are made, received and responded to on the part of the centres, so as to secure the most perfect harmony in all of the acts, functions and even thoughts of the individual.

The fundamental grouping of the nerve centres was designed to bring the individual into proper relation with the external world—the source of all power—and hence we have first, the centres of the five special senses, seeing, hearing, smelling, tasting, and feeling; from these, the impressions are conveyed to other centres closely allied in function until they finally reach their destination in the cerebral centres, the seat of the highest psychic function, SENSATION, WILL, AND EVEN THOUGHT.

Every nerve cell has its own special function and these functions are as numerous as the acts and even the thoughts of the individual, but each depends ultimately for its activity and development upon the stimulation which it receives

from one of the five special senses, through the medium of association fibres.

The preceding discussion which very imperfectly illustrates modern views of the anatomy and physiology of the central nervous system, furnishes the facts necessary to understand the physiological significance of that first lesson which I witnessed, as taught by Dr. Wilbur.

The subject of the first lesson was a fairly well developed child, both as to its body and brain, whose nerve centres of the special senses had never responded to their natural stimuli, and hence the cells of these centres were in a rudimentary and undeveloped state. The result was that all the thousand million cells of the brain which depended upon the activity of these special centres for stimulation to action, remained inert and undeveloped. And yet to the mind of Dr. Wilbur there existed in this child an apparatus, organized for a special purpose, which for some reason could not take the initiative in getting itself started. It was like a clock wound and prepared to register time correctly, but no one moved the pendulum; like an electric battery fully charged, but no one pressed the button that made the circuit. How was the first impulse to be given to this dormant mechanism, the brain? Evidently it must be through the medium of one of the special senses for in no other way can an impression be made on the nerve cells. Wilbur chose the sense of feeling because through that medium the most direct and profound impression could be made. But actually and practically he used also the senses of seeing and hearing. In striking with the dumb-bell he stood in front of the patient so that the child saw him raise his arm to strike, as was apparent in the second and third child. The clash of the dumb-bells was conveyed through the apparatus of the ear to the auditory centre. Thus, in the first lesson, three dormant centres were aroused to activity by the normal stimulus of three special senses. The physiological effect of the stimulation of the cells of these centres to functional activity, was an increased flow of blood for their nutrition and a consequent enlargement or normal development of the individual cells.

But the effect of this first lesson was not limited to the centres immediately stimulated to activity by the clash of the dumb-bells. If we could trace the far-reaching connections of the neurons of the special centre of feeling with the neurons of other centres, deep in the

brain substance and leading up to the great centres of thought, we should have seen hundreds of thousands of inert and undeveloped cells awakened from their dormant state and beginning to assume their proper functions. If to the results which followed the direct stimulation of the center of feeling, we had added the equal, if not greater influence which the centres of seeing and hearing had upon the brain nerve centres, we could probably only imperfectly appreciate the tremendous significance of that first lesson. It was the initial step in a course of instruction that had unlimited possibilities in its power to build a brain and thus rescue a child from a mere vegetative life—an intolerable burden upon its family and a curse to itself.

The lesson which the preceding illustrations of the anatomy and physiology of the nervous system teach, has a wide application to our treatment of the dependent classes. We learn that the mental attributes of every person depend ultimately upon the physical state of the nerve cell over which we have almost absolute control, both in its individual and and collective capacity. If its texture is feeble from heredity or disease, we may make it strong by nutrition, exercise, pure air, and medication; if it is undeveloped, we can develop it by applying its appropriate stimulus and suitable nourishment; if it is unduly developed and hence over-active, we can reduce it to a rudimentary and inactive state by removing every form of stimulant and reducing its nutrition; where the regulation of the stimulant or nutrition does not accomplish our purpose, we can rely upon specific remedies.

The logical and inevitable conclusion to be drawn from this discussion is, that, if we thoroughly understood the exact function and the functional relations of all the cells of the nervous system, we could, beginning with the child, develop whatever kind or attribute of character we choose. In the adult we could modify existing attributes by stimulation of one class of nerve cells and the repression of another, to any extent that we desired. There is no doubt that the marked changes which we often witness in the mental attributes of the sane and insane, temporary and permanent, are due to conditions affecting the functional activity of nerve centres. Nothing can be more thoroughly practical than the application of the proper remedies by which the equilibrium of these centres is secured. Socrates was

asked how a vicious boy could be reformed, and he replied: "Remove every possible incitement to vice, and substitute every possible incitement to virtue."

The Athenian philosopher formulated his maxim on a sound, physiological basis. We are daily applying this advise in mental disturbance by placing patients under conditions which tend both to the forgetting of disturbing objects, and becoming interested in new and diverting surroundings, thus repressing the activity of the excited centres on which the disability depends by removing the source of stimulation and substituting the activity of other centres. But, unfortunately, it is done without other motive than experience and hence the results are comparatively slight. We can only feebly conjecture what vast numbers of feeble-minded would be taught self-care, what enormous percentage of insane would be cured, what universal reformation of criminals would result if every one of these classes now in public care were subjected for five years to the skilled treatment of experts in physiological and psychological sciences.

The defect in the system of educating the idiot adopted by Dr. Wilbur was not in the means employed, nor in the method of employing them, but in the failure to recognize the true physiological significance of that first lesson to which he attached so much importance. While he individualized each inmate in his treatment, he failed to individualize the integral parts of the brain through ignorance of its intimate structure, and therefore treated it as a whole, as a unit, which does not tend to the attainment of the highest possible results.

This limited view of a complex and complicated mechanism may not have greatly embarrassed a master-mind like Wilbur's in his methods and efforts to teach the feeble-minded, but it is painfully evident to an intelligent visitor to institutions for the care, treatment, or education of those suffering from idiocy, insanity, epilepsy, or other affections of the nervous system, that there is too often wanting, on the part of physicians and caretakers alike, the genuine enthusiasm in their work which insures the highest degree of success. The vast variety of symptoms which these diseases present for study attract but little attention because the brain is a sealed book. All of the inmates are placed on a dead level, and treatment, instead of being individual, is *en masse*.

This superficial and mere surface knowledge of the inmates of institutions on the part of the officers, not only results in ignorance of the possibilities of improvement of large numbers of patients, but begets incredulity as to the capacity of an entire class to be improved by any method of treatment. It is equally true that the medical officers, attendants, and managers of our charitable and correctional institutions have little, or, too often, no faith in the capacity of the vast majority of the mentally defective class to be taught, the mentally diseased class to be cured, or the criminal class to be reformed. And this want of faith is due to ignorance of the capacities of the human brain to be infinitely modified by expert care. The result is that no state institutions, devoted to the care and treatment of these classes, are so organized and conducted as to be thoroughly curative in their methods. They are in fact custodial. In their annual reports they never call special attention to the increasingly large percentage successfully taught, cured, reformed, and discharged. They do not appear before the legislature asking appropriations for better facilities for teaching the idiot, curing the insane and reforming the criminal, using as an argument the seventy-five per cent. taught, cured, and reformed the past year, and promising with improved facilities to raise the percentage to ninety-five per cent. On the contrary the constant demand upon the state is for more buildings to accommodate the ever increasing number to be added to the fixed population of these institutions.

I am aware that opinions so favorable to the far more successful treatment of the mentally affected classes will be received with doubt and incredulity by those who have had long experience in these institutions. Those connected with asylums for the idiots and feeble-minded will point to the great array of statistics of these institutions showing a fixed population with few discharged except by death; the managers of the state hospitals for the insane will refer to the statistics of Earle, collected a half century ago, which prove that scarcely any insane permanently recover, confirming the old maxim, "once insane always insane;" the managers of the prisons will refer to innumerable incorrigibles who have resisted all of their methods of discipline—even starvation, and the dungeon.

But that first lesson of Wilbur, rightly interpreted, is a promise and a prophesy of a coming era of far more successful treatment of

those laboring under the disability of dormant or perverted brain cells. When I recall the enthusiasm with which he patiently labored, day after day, month after month, year after year, to arouse to activity the inanimate brain of a helpless, hopeless idiot, and was rewarded by the addition to his corps of helpers of a useful man, I recognize a beacon light showing us a new and better way.

There is, on the grounds of this institution, a concrete example of the scientific application of Wilbur's method. Among the laborers is a young man who was transferred from another state institution as unteachable. That verdict meant to this boy, equipped with brain and muscle for activity if he could be set in motion, a mere vegetative life. Moved by an impulse to determine experimentally what possibilities there might be in an effort to teach this idiot self-care, the superintendent undertook, personally, the task of education. Well versed in the anatomy and physiology of the brain he began to stimulate to functional activity one nerve center after another, with the final result that he built a brain and converted a helpless burden upon the state, for perhaps half a century, into a self-supporting citizen. Indeed the animal trainer, who, stimulating patiently and persistently its feebly responsive brain cell, creates the learned pig, the educated seal, and the numerous other prodigies of learning among animals, ought to teach us that we have nearly unlimited power, if rightly directed, of educating the human brain however defective.

The practical question arises, how can such a scheme of education be realized? An incident in my official inquiries is to the point. I visited a family of fifteen children under the care of a foster father and foster mother, the former being a highly educated, practising physician and the latter a very intelligent and cultivated woman, but both were lovers of children and actuated by the most profound religious motives. Having no children of their own, they began many years ago to gather a family, selecting by preference, destitute orphans, without regard to color, race, or nationality. At my visit there were in the family circle, Americans, Irish, Welch, Mexicans, Porto Ricans and negroes; their ages ranged from eight to twenty-two years. They represented the poorest class of people of their respective nationalities, and several were from the city slums. These children were under a rigid system of personal training by their foster parents as to

their diet, exercise, bathing, conduct, and studies. The brain capacity of each was precisely gauged and every possible means employed to repress vicious tendencies by removing excitants thereto, and substituting the rewards of virtuous conduct. Here was a large, united, and devoted family circle, the individual elements of which were as diverse as human society could make them, in which scientific, individual training was surely overcoming the disabilities of heredity; stimulating to active development dormant nervous systems; establishing that equilibrium of cerebral functions which insures against insanity, and repressing the tendencies to vice by the allurements of virtue.

My first suggestion is that, in organizing the service of an institution for the care and treatment of the dependent classes, every possible effort should be made to individualize each inmate from the moment of admission, and to maintain that individuality throughout its residence. My view is that from the first day to the last, each inmate should be the subject of special study and record; the first examination should be exhaustive of every organ and function of the body. No rational effort can be made to improve the physical or mental condition of a person until we understand the exact present condition of the organism on which its integrity depends. Such an examination would determine the faults of nutrition from the ingestion of food, to its assimilation; the precise waste of the body by tests of the excretions of eliminating organs; the condition of heart, lungs, kidneys, liver; the dynamic power of the muscles; the activity and sensibility of each of the special sense-organs; and such other tests as will give the attendant a scientific basis on which to begin to reconstruct the physical and mental constitution of the inmate.

To maintain the individuality of this patient in an institution, the colony plan with its family organization, is absolutely essential. The vast advantages of the cottage system on ample farming lands, with its diversified forms of simple, out-door industry, its opportunities for unlimited classification and individualizing inmates, and its possibilities for economy of administration, commends the colony plan to the judgment of the highest authorities.

Again, I would suggest the systematic education of attendants

along the lines indicated in this paper, in addition to the ordinary instruction of the training schools for nurses. The structure and functions of the nervous system and especially of the brain, as outlined here, can be intelligently appreciated by every person of ordinary education. In my experience with the trained nurses of general hospitals, anatomical and physiological explanations which illustrate the nature of the duties they are to perform, are received with the keenest interest and immediately applied in practice. With such knowledge on the part of the attendant, every case that comes under care becomes invested with a new and living interest which makes that care a pleasure rather than a task to be perfunctorily discharged.

Finally, it is necessary, in organizing a scheme of more direct personal treatment of inmates by skilled attendants, that there should be one or more supervising officers of the highest possible qualifications who devote their entire time and energies to the personal supervision of the instruction of every class, and who, through the subordinate teachers, maintain constant familiarity with the progress of every inmate.



IMPRESSIONS OF EUROPEAN INSTITUTIONS AND
SPECIAL CLASSES.

BY HENRY H. GODDARD, M. D., VINELAND, N. J.

Impressions are of very uncertain value. It is impossible for one to travel by rail 3000 miles in sixty days, visit nineteen institutions, ninety-three special classes, interview a score or more of men in strange languages and always get the right impression. One is always liable to take for the rule what is only the exception. One's patriotism tends to make him say we do things better at home; or, at another time, his desire to be generous leads him to think we are far inferior to those across seas. Again, one's expectations count for much and it is somewhat difficult to recognize as average or poor that which one has expected to see excellent or *vice versa*.

However, to be conscious of danger is partly to avoid it, so I hope that not all of my impressions are radically wrong.

We reached London, March 13th, by way of Liverpool. The next morning I set out in search of that Nestor of workers with mental defectives in England, Dr. Shuttleworth. Some of you know him personally. He is the same genial, modest, kindly man that he must always have been. Although he is no longer young, there are no signs of old age either in movements, memory, or activity of interest in the subject to which he has devoted his life.

He had recently moved to a more commodious house, and it was late in the forenoon before I found him. He received me most cordially and was soon deep in plans for my visits to the various London institutions and people. I saw a great deal of him first and last and learned much from him. He visited two institutions with me and gave me letters to leading people in England.

He devotes most of his time now to consultation and advisory work. He takes a few children into his home, mostly borderline cases. It goes without saying that everything is done by the most up-to-date methods. Individual care and oversight have certainly accomplished some wonderful results.

As you well know, the classification in England is different from ours. The law recognizes only the idiot and imbecile. Consequently, the public institutions have none but these. They are also children of the poorer classes and usually of a well marked type. Since parents, there as well as here, object to having their children declared imbeciles they keep them out of the institutions as long as possible. The effect of this, now that they are beginning to get something like compulsory education, is to crowd their schools with feeble-minded children and even with high grade imbeciles. In London they are coping with this difficulty by means of "special classes." They have, at the present time, 6000 children in these classes. Of these, 5000 are, in the opinion of the chief medical examiner, Dr. Kerr, institution cases.

As an example of the public institution, I took the one at Darenth under the management of the Metropolitan Asylums Board and superintended by Dr. Rotherham. This illustrates a condition familiar to most of you. They still regard idiocy as a phase of insanity. Dr. Rotherham said his institution was really a ward of the insane asylum. Indeed his untrainable adults are sent to Epsom. I visited Epsom Asylum for the Insane—a very extensive and elaborately equipped establishment—and saw these adult cases. The physician uniformly referred to them as "congenital cases" meaning that idiocy is congenital insanity.

Darenth has about 2000 children. Dr. Rotherham is frankly in favor of large institutions and wishes he had 4000 instead of 2000. He does not believe in reading, writing, counting, or other school work. He has a certain amount of it for the same reason that we do. But he lays the great stress on the manual work. His children are trained in this and later devote themselves to one particular occupation. And the work they turn out is the most complete of anything I have ever seen. In cabinet work, brush-making, paper bag making, bookbinding, printing, shoemaking, basket-making, dressmaking, they do all the work of the institution and much for the insane asylum and other institutions under the same management. Their shops are new and especially designed for the work to be done. Every department is run at a profit except the tinsmithing. An interesting problem is met with in connection with the people in charge of the shops. They often will not train an inmate as far as he could go for fear that he will come to the point where he can do all the work and then the trainer

will no longer be needed. They meet this by demanding constant progress on the part of the pupil and if a trainer fails to produce that result he is liable to be discharged on that account.

Dr. Rotherham is also very emphatic in the matter of his teachers in the schools. He fights vigorously any tendency to require the same tests of efficiency as for the elementary schools. Indeed he declares that the very best results invariably come from the "home made product," i. e., he selects an attendant who has a fair education, has proved a good attendant, and has an ambition. He promotes such an one to the position of teacher. His experience would seem to be in the nature of a successful experiment which might be regarded as final demonstration of a plan to be followed. It is followed somewhat in America but I have never happened to hear anyone speak so emphatically about it as he did. Earlswood near London and the Royal Albert at Lancaster in the north of England are philanthropic institutions supported by charitable associations. They are contributed to by the nobility and even by royalty. Both Dr. Cadercott at Earlswood and Dr. Douglas at the Royal Albert are very much alive to the problem and are working hard in the interests of a better solution of it. Their institutions are models in many ways. The children here are from the better classes and receive attention and accommodations according to the amount paid for them. Children are not utilized to any great extent for housework or what is called drudgery, indoors or out. The shops are a prominent feature as is also the school. It was my impression that the industrial work here was not as complete as at Darenth, which I attributed to the fact that more time being devoted to the literary side, the children were less trained, while young, in the various industrial occupations.

At Earlswood is a famous idiot savant, a prodigy in manual and mechanical work. He carves ivory in very delicate forms and has designed and done all the work, both wood and metal, for several very elaborate structures, the most famous of which is the model, eight feet long, of the steamship, the Great Eastern. It would be considered a marvel no matter who made it. Earlswood has had the misfortune of having to put a large sum of money into rebuilding its old buildings solely because the original foundations were not adequate and the buildings were falling to pieces, endangering the lives of all. The

work of rebuilding is about half completed. The rest is propped up until they can raise money to finish.

Of the strictly private institutions, that of Dr. Langdon-Down's is the most extensive. Langdon-Down, the son, is now superintendent. He has about 160 children. They are located in three houses and the estates extend along the Thames. The grounds are as beautiful as English country seats always are. Many of the children have night and day nurses, their own private apartments and live in a manner becoming to the station of their family. The inmates are mostly of the lower grades. One is essentially struck with the large percentage of Mongolians and their unusual age, as high as forty years. At least ten per cent. are of this type. I found throughout England an unusually large percentage of Mongolians. Whether there is an unusually large number of such children born in England or whether the neglect of the milder forms of feeble-mindedness makes these more in evidence, I was unable to determine. One might readily expect the former, considering the facts of the social conditions which might lead to that temporary lowering of the vitality to the point where the Mongolian is produced.

As already noted, the specifically feeble-minded are mostly in the common schools, as are also many of the high grade imbeciles. In one class I saw two hydrocephalic cases, two microcephalic, one Mongolian; in another I found a cretin. From my observation I should fully agree with Dr. Kerr that five-sixths of the children in these classes are institutions cases. To my mind the unfortunate thing about it is that almost none of the teachers understand the cases, but think that this special education is going to make them normal. There is even a national association for the feeble-minded, which, as I am told, is concerned, not to get them into institutions, but to equip them to get along in society. Not only that, but they even think that many already in the institutions could be trained and educated so as to be sent back as safe members of society! No more serious mistake could be made. It is a very unfortunate state of affairs. This great body of people, the educators and friends of education, and also the medical and institutional people, should be working together for the one great need—the permanent custody of all mental defectives. There is one good hope. They have a Royal Commission that has been sitting for four

years and their report is expected daily. It is understood that this commission will recommend the establishment of institutions for the care of these "special class" children. This will greatly improve the situation and if they go far enough and arrange for permanent custody as far as possible, it will go a long way toward putting them in the lead in the solution of one of the most difficult problems.

Leaving England after a two weeks' stay we crossed to Paris. One has two items in his memindex for Paris—call on Dr. Bourneville and visit Bicêtre.

Dr. Bourneville received me very courteously. He shows his age which must be past seventy. He has retired from Bicêtre and his chief work now is editing and publishing *Progres Medical* and directing his private school. He is very busy and has only three hours in the week when he sees visitors.

Of course, the Bicêtre is the first thing to see about Paris. But it was a surprise to me to find that it was so nearly the only thing in France! There is, of course, another institution for boys at Vacluse, and two institutions for girls, Fondation Vallee and Salpêtrière. But they altogether have only a little over 1000 children. Indeed, of the estimated (Bourneville) 50,000 imbeciles and idiots in France, only about 3500 are in institutions. There are no special classes although Bourneville has urged it again and again.

As you know, the Bicêtre is a large hospital for the insane. The children's department, as it is called, has about 400 idiots and imbeciles. It is Bourneville's great achievement, not that he has applied to these the same medical oversight and treatment as would be given to any other group of defectives and also that he combined with these, pedagogical methods adapted more nearly to their needs than is often done, but rather that he did this in this particular place contrary to all the traditions and practices. When he went there, Bicêtre was a "horrible place of detention." He left it when he retired three years ago, having reached the age limit, "a model of system and regulation." It is true that outwardly the arrangement of things does not prove attractive. It is very much crowded—a veritable barracks, bare and uninviting in every particular. But behind the desolate situation one can detect much that calls for praise. There is an infirmary and a contagious ward. There are shops and schoolrooms, a gymnasium

and playgrounds. Bourneville still has his private school at Vitry where his methods are carried out completely and not without results. As one noted the very low grade of these children one could not help asking the old question, "Is so much outlay on these children justifiable from any standpoint except the gratification of the parents? And ought the parents to be gratified in this way?" Of course we say at once the parents of such a child should have all the gratification they can get. Nothing can recompense them for their misfortune. But if all that these children are trained to do is mere puppet show and if the parents know it is mere puppet show, will they be gratified? Surely not. And equally surely must some truer reason for gratification be found.

From Paris to Rome is a long journey, but we broke it at several points and in spite of the cold and the rain had much pleasure.

Rome is a very little oasis in a very big desert. There are no special classes in Italy and no institutions for mental defectives. Dr. de Sanctis, psychologist in the University of Rome, is intensely interested in the feeble-minded and he has, under the auspices of a local society of which he is the leading spirit, a small day school for mental defectives. There are about thirty children. They are cheerfully taught according to the best methods that we know and they are also studied somewhat. From their experiences, Dr. de Sanctis and his assistants are also firmly convinced that radically different methods must be used from those used with normal children. Indeed, as one of them expressed it, "it is much more rational to use methods we have devised for defectives, with normals, than to use the common methods on the defectives." But they have the same traditions and the same demands of parents that we have and find it equally hard to carry out their ideals.

Switzerland is most worthy of note here for what seems to promise to be a valuable method of studying the defectives. There are special classes in the Zurich schools of very fair efficiency. There are no public institutions. There are a few small private institutions without any characteristics worthy of note. The method referred to is one of which you have doubtless read. One of my objective points was Zurich to see Dr. Jung and his psycho-galvanic phenomena. I anticipated great things. I was not disappointed, or, if you prefer,

I was not disillusioned. The psycho-galvanic phenomenon is one of those discoveries that makes a prudent person hesitate because it seems to do too much. As Dr. Peterson says, it is too soon to make great claims. "The psychometer may ultimately do less than we expect, or it may do more than we at present surmise." The apparatus consists of one or two dry cells, a shunt, a Deprez-d'Arsonval galvanometer and two flat copper electrodes upon which the hands or the feet rest. When the connections are made the galvanometer marks the amount of current passing through the body. When the person is in a state of mental quiet the needle comes to rest. Now let an emotion be aroused and the mirror of the galvanometer begins to move over the scale thus indicating that there is a reduction in the resistance of the body to the current. In this way psychic states are detected and by suitable combinations of stimuli the operator can determine very accurately the character of the emotion or thought complex. (See *Journal of Abnormal Psychology*, Apr., 1908.)

The value of the method for the study of the feeble-minded would seem to lie in the ability to determine, as we often cannot do by other means, what words arouse emotions, thought processes, associations or vivid images. The value of this will of course be inestimable. There will doubtless be many obstacles to overcome, but it seems hardly possible that it will not prove of some use.

After several days passed with Dr. Jung, who by the way is a most genial and generous fellow, I proceeded to Munich where I visited special schools. From Munich to Vienna was the next move. Vienna has only four special classes. They are the poorest of anything I saw. Austria has, however, some excellent men and some good institutions.

Dr. Krenberger, who was my host while in Austria, is the editor of *Eos*, one of the few journals devoted exclusively to defectives. Dr. Krenberger has a private institution of some thirty children whom he is training by the most up-to-date methods. He also gets excellent, and one may almost say, marvelous, results. A boy that would be recognized at once as probably not above a middle grade idiot, without speech and unable to walk, had been trained until he could get about without help, though he preferred to take hold of something. He could read, match colors and name them; recognize forms and add simple combinations.

Some fifteen miles out from Vienna is Biedermansdorf. Here we found an institution of the same character as Earlswood. They have about 300 children of the lower grades. Much stress is laid on school work even with the lowest. But I also saw here the best gardening that I found anywhere. The original building was not for an institution but they are gradually getting new ones that are well adapted to their purposes. They consider themselves very well off because they have four acres of land. A very beautiful chapel room in one of the buildings was a great feature. It was elaborately furnished with all the paraphernalia of the Roman Catholic church, much of it of solid gold, the gift of royalty. It is used occasionally. The superintendent is a young man, active and energetic, and apparently with ideas.

Halle has established the first special class or "Hilfsschule." The one that I visited here was founded in 1859. It has nine classes. Great stress is laid on speech training. Dresden came next with a school in 1867 and another in 1868. The school I visited in Leipzig was established in 1881. It now has twenty classes.

One hundred and ninety-three cities and towns of Germany have Hilfsschulen, employing altogether 789 teachers. Berlin has 136 classes with 2145 children. The best hilfsschulen are said to be, not in Berlin as one might expect, but in Hannover, Frankfurt and Mannheim. I visited the two schools in Hannover and found them very good, certainly the best of anything I saw. There are 101 institutions of all sorts in Germany, caring for about 23,000 children. Forty-six of these employ altogether 200 teachers. This would indicate a general average of about four teachers to an institution. The institution of Dalldorf near Berlin has about 200 children with nine teachers. The children come from the hilfsschulen of Berlin and are such as cannot get along in these classes. They stay at Dalldorf until they are fourteen at which time they are sent home to earn what they can. They are taught a trade and are usually able to earn something by it. There is a good deal of out door work, exercise, gardening, etc., but the shops did not appear especially attractive. Inspector Piper, the superintendent, is quite an authority in Germany and has prepared books on numbers and on articulation.

The crowning glory of my visits in Germany was that to Dr. Trüper at Sophienhöhe near Jena. He is one of the finest men in Germany

to meet. He is very familiar with America and inquired after many Americans whom he knew. His institution is a model of beauty and arrangement. He has about seventy boys and girls from the best families. The teaching and training are excellent and the results good.

Little Belgium has no institutions but she has some good men. There are also special classes in Brussels. The private schools of Dr. Decroly are well worth visiting. One is a school for children conducted on the principle that all instruction should be concrete for the first six years at least. It is most interesting to see the arrangements. The other school is for mental defectives. Dr. Decroly is a close student thoroughly up on all that has been done and a great worker, himself. Dr. Boulenger has been a co-worker with him, but is about to leave Brussels to take charge of an epileptic colony.

In Antwerp is Dr. Schuyten who, while not working with mental defectives, is well worth meeting. He has one of the few child study laboratories in existence, and perhaps the only one authorized and supported by a city. Altogether the Belgians impressed me as the most alert and enthusiastic, as well as best read of any group that I met.

The trip as a whole was full of suggestion, but I am inclined to say that its lessons were general rather than special. Many things are not done the way we do them, but often conditions are different, or else the method is accidental and perhaps equally good. They do not employ children to do the necessary work of the institution as much as we do. Children are not trained to give entertainments as in some of our institutions. I found no one who seemed to think the question of asexualization was worth considering. I was told of one man in Liverpool who had given the question some attention.

The lack of harmony between the institutional people and the educational people seems to me very deplorable and suggests the necessity of our taking great care in this country where the special classes are just getting started, to see to it that the educational authorities have the right data and the right point of view.

I should say that in Europe they are much less alive to the necessity of permanent custody than we are. A few of the leaders recognize it. The rest do not. Dr. Douglas, of the Royal Albert Asylum, said in answer to my question, "the greatest problem before us to-day is permanent custody."

I find as I look back over the trip that two impressions stand out very clearly and strongly, although I was not conscious of them at the time of making my observations. First, I am impressed that at the Darenth Asylum the conditions were the most satisfactory of anything I met. This seems to me to be due to the fact that these children were more systematically taught a trade which they afterwards worked at in the institution. Other institutions seem to lack something. On the other hand I was continually made to feel that there was something almost grotesque about teaching such children as I saw taught, to read and write and "do sums." They get something that looks like results and therefore think it worth while. But is it permanent? Is the child any more useful or any happier for it? Are they not victims of their own bad logic? I think a teacher in one of the institutions illustrates the case exactly. In attempting to defend her schoolroom work, she naively showed its fallacy. I had asked, "Would you, if you could, have more manual training and less reading and writing?" She said, "No. They go back if they do not have the reading and writing." I said with unfeigned interest, "That is new to me, how do you mean?" "Why, you see," said she, "they forget how to spell their words if we cease to train them!"

This conviction is strengthened by what I have seen among our own institutions.

And lastly my observation of feeble-minded children convinces me that it is good psychology.

These two impressions from opposite phases of the problem, seem to lead logically to the one conviction—the most useful treatment for feeble-minded children is to give them none of the school studies, reading, writing, counting, etc., but to give them as much of an understanding of their environment as they can get. Develop what minds they have, concretely by training them to do all kinds of industrial work throughout their trainable years. When these are past, turn them to whichever has proved to be most to their liking or most suitable for them and let that be their life work. I am willing to admit some exceptions but let them be the exceptions and not the rule. And let the exceptions be few. If this be nonsense, then our confreres across the water are nearer sane than we in America. But if it be the goal, we are much more surely headed for it than are they. At all

events, it is good for us to remember that we all have much to learn and no one is so far ahead of the others that he can afford to neglect to learn from them.

It is hardly necessary to add that the best part of my trip cannot be put upon paper, just as the best part of this meeting is not the program. It is men, men of big minds and hearts devoted to a common work. By contact with such, one's own heart and mind are enlarged far more than by methods or systems.



EPILEPTIC DEMENTIA, IMBECILITY AND IDIOCY.

BY WILLIAM T. SHANAHAN, M. D., SONYEA, N. Y.

The mental state of an epileptic is almost without exception, in one way or another, below the normal average of the non-epileptic individual. The temporary changes which recur at more or less frequent intervals bring about a permanent effect on the mentality of the epileptic. These permanent changes vary from a slight deficiency to the most marked dementia. The term dementia applied to the epileptic implies a deterioration process, progressive in character, which may have periods of remission or apparent cessation of the deterioration extending over a considerable period of months or years.

Epilepsy, beginning as it does before twenty years of age in upward of eighty per cent. of those afflicted, may easily be expected to produce a more or less marked mental deterioration in such individuals. This deterioration, as has often been discussed, is in all probability due in part to the frequent insults to the brain as a whole and especially to those parts supposed to be active in the mental processes, and in part to the same underlying cerebral imperfection which has caused the appearance and recurrence of the seizures themselves. In the latter case the mental defect may precede the occurrence of the first fit. The degeneracy, of which the epileptic fit is but too frequently a sign, must be expected in the majority of cases to also show a more or less extensive involvement of the higher activities of the cerebral nervous system, i. e., the mind.

Turner states, "A family tendency to either epilepsy or insanity, although offering no obstacle to the arrest of the seizures in favorable cases, materially increases the probability of the disease becoming confirmed and the supervention of dementia.

Wildermuth states that seventeen per cent. of the epileptic children at Schloss Stettin were normal mentally, eighty-three per cent. having some mental weakness.

R. Reynolds claimed thirty-eight per cent. of his cases showed no mental failure; forty-six per cent. showed some mental impairment;

fourteen per cent. were demented. He stated that some cases with frequent seizures show no mental impairment after many years.

According to Esquirol, out of 385 epileptic women observed in the Salpêtrière, seventy-three per cent. were mentally afflicted.

In the Wuhlgarten (Berlin) Institute for Epileptics, Bratz found mentally normal, 15.8 per cent.; mentally disabled but able to work, thirty-three per cent; mentally disabled, unfit to work, 50.9 per cent. Chalfont St. Peter gives 29.1 per cent. as demented.

Dr. Everett Flood writes, "The epileptic person who represents pretty normal conditions of mind, is rare. Some patients appear to remain normal for a long time but under moderate stress they betray a faulty temper which is a very prominent failing in those more weakened. We find in an institution that the larger proportion of the patients are practically demented. A very large number are always properly to be classed with the feeble-minded and as their disease progresses this is more evident. Then another large proportion become demented who originally were almost, or quite normal."

It is no doubt true that the percentage of mentally impaired is found greater among those in an institution than without. This is partly due to residual cases and partly to the fact that many are not sent to an institution until mental failure is manifest to the most untrained observer.

Intellectual enfeeblement to a greater or lesser degree existed in practically 84.6 per cent. of the 2500 patients admitted to the Craig Colony for Epileptics from its opening in January, 1896, to June 8, 1908, a period of over twelve years.

A review of the mental state of all such patients as observed at the time of their entering the Colony is as follows:

Good.....	385	or	15.4	per cent.
Fair.....	707	or	28.28	" "
Feeble-minded.....	687	or	27.48	" "
Imbecile.....	381	or	15.24	" "
Idiot.....	134	or	5.36	" "
Dement	206	or	8.24	" "
Total.....	2500			

The assigning of a patient to a certain section under this classification is difficult in many instances and must naturally depend on the

individual observer. Those called fair by one would oftentimes be placed by another under feeble-minded or imbecile, and so on.

Ireland says, "In making our definition of classes it is difficult to know where to draw the line between epileptic idiocy and epileptic dementia. If the epilepsy has caused the faculties to become impaired before the age of seven years, the patients should be classed as epileptic idiots."

As noted on admission, the following table gives the mental state of the 1197 patients remaining at the Craig Colony on June 8, 1908.

Good.....	214	or	17.87	per cent.
Fair	343	or	28.65	" "
Feeble-minded	278	or	23.22	" "
Imbecile.....	228	or	19.04	" "
Idiot	63	or	5.26	" "
Dement	71	or	5.93	" "

The following table gives the mental state of the same 1197 patients on June 8, 1908.

Good	123	or	10.27†	per cent.
Fair	274	or	22.89†	" "
Feeble-minded	240	or	20.05†	" "
Imbecile	228	or	19.04†	" "
Idiot	63	or	5.26	" "
Dement	269	or	22.47	" "

A comparison of the last two tables shows a decrease of 7.6 per cent. of those patients classified as good; a decrease of 5.76 per cent. of those classed as fair and an increase of 16.54 per cent. of the demented class.

Numerous macroscopic conditions are common to epileptics and other degenerates, among them being malformation of the cranial bones, asymmetry of the two sides of the brain, atrophy, sclerosis and porencephaly. With such a marked degeneration of the cortical cells, increase of neuroglia and opacity of the membranes as is claimed by several, one could not expect aught but a marked involvement of the cell activities conducive to normal mental action.

As Bevan Lewis considered it, the mental impairment following epilepsy in adult life is due to a degenerative process in the nerve cell. Head injuries, meningitis, typhoid fever and the infectious diseases

most frequent among children are all too often followed by a mental enfeeblement which may be very marked. Such a patient when seen in later years may be so deficient mentally that it would be impossible to distinguish the condition from a congenital deficiency unless a satisfactory history of the early years of the patient can be procured. An injury to the essential structure of the brain, whether caused by traumatism or by action of micro-organisms or their products, occurring during the first four or five years in the life of the individual, may be sufficient to interfere very markedly with, or practically stop the future mental development. Undue strain at school in precocious children may produce a marked impairment of mental growth. In early childhood the disease frequently prevents, more or less completely, mental growth thus producing many cases of imbecility and idiocy. Others who have epilepsy at an early age show but little mental involvement after many years. Gowers expresses the mental changes well in the following sentence, "Defective moral control is often present."

The earlier the epilepsy appears in the individual the more liable is he to develop mental deterioration. The tendency to deterioration is more marked in cases beginning before five years than those beginning between five and ten years. As 75.80 per cent. of all cases of epilepsy appear before the twentieth year, it is but natural to expect a more or less marked interference with the intellectual development in a large percentage of epileptics especially among those seen in our institutions. The longer the duration and the more frequent the seizures the more marked the deterioration as a rule. Sex seems to play an unimportant part in the question of mental deterioration.

Some observers maintain that mental deterioration, continuing to dementia, is more frequent among those suffering from petit mal than from the severe seizures, but my experience has been that the type of seizure does not play the important rôle assigned to the petit mal by Hughlings Jackson who is of the opinion that in cases of petit mal and slight seizures, the explosion, not finding vent in a motor form, is more apt to extend to the centers controlling the mental processes. Several cases at the Craig Colony have had a large number of petit mal seizures daily for years and have failed to show any material mental deterioration as a result. Some cases suffer a gradual, marked mental impairment although the seizures are comparatively infrequent. The

dementia occurring in epilepsy is a slow, steadily progressing loss of memory and change of affection, a blunting of the finer feelings and a permanent mental clouding. It is due to the brain injury produced by the epileptic seizures or from the natural advance through the continued action of the abnormal state of the brain structure that caused the epilepsy.

Fere states, "It cannot be doubted that the stupor produced by the major attacks is more marked than that resulting from minor ones; and it is certain, as is admitted by Legrand du Saulle, Voisin, Sommer, and others, that major seizures occurring at frequent intervals lead much more rapidly to dementia than do the incomplete seizures." Clouston mentions cases of chronic insanity, which were demented, beginning to have epileptic fits after being many years insane and continuing to have them regularly.

Cases with any or all varieties of seizures may escape material mental deterioration and on the other hand patients with any type of a seizure may show the most marked deterioration. Mental failure is determined less by single conditions than by their combination, and it is probable that a more potent cause than the attacks themselves is a predisposition to suffer under their influence, a predisposition that is related to the initial causes of the disease rather to its developed character.

A marked mental impairment may continue although the seizures diminish or cease. At first there may be but an increase in irritability and some emotionalism; later the patient complains of a failure of memory which makes itself plainly manifest as does also a retardation of all the mental processes resulting in an impaired intelligence with a condition bordering on stupidity which continues on with a blunting of the affections and a permanent mental impairment which may in many cases reach a condition in which there is a mere vegetative existence. During this progressive change the patient may have an occasional period of active mental disturbance with hallucinations, delusions and violence, or periods of delirium and stupor. Some cases show a gradual progressive dementia without episodes of active disturbance. The dementia may become absolute, the patient lying in bed, paying no attention to the calls of nature or to his environment. The slow speech, often of a plateau type, with the long interval between the

utterance of each word, or group of words, is well known as a symptom of the mental failure accompanying epilepsy. The patient may be incoherent and still very talkative. Others are silent. Patients become childlike in manner and expression. They may laugh boisterously over nothing or weep without apparent cause; become quickly enraged and irritated on the slightest provocation. Their habits become depraved and filthy and in many cases they destroy clothing, bedding, etc. Some take on considerable weight. Others are very poorly nourished, develop bed sores and die of inanition. Senile dementia as ordinarily seen may occur in an epileptic as in any ordinary individual.

Cases of apparent dementia, occurring in persons who are saturated with bromides, may clear up when the bromide is stopped and eliminated but some cases suffer a permanent mental impairment probably due in part to the bromide and in part to the epilepsy. All epileptic insanities are as a rule progressive deteriorations which tend toward less marked dementia. The course of epileptic dementia extends as a rule over a period of several years.

Epileptic dementis succumb as a rule to status epilepticus complicated by a broncho-pneumonia, decubitis or enteritis. Because of the poor physical condition of many of them they have but little power of resistance although it is surprising to one not familiar with them to see how they will recover from a series of seizures or a pneumonia when much stronger patients die under similar conditions. This enfeeblement progresses irregularly and may become apparently stationary for a more or less extended period. Most epileptics tend to become demented if they live long enough.

Mendel (Krauss) states, "In later life (about the fortieth year) epileptic seizures, which have previously been present with idiots, generally disappear." This is not always true as cases at the Craig Colony have shown.

PROGNOSIS—This is as a rule unfavorable although an apparently hopelessly bedridden epileptic dement may, to the surprise of all concerned, gradually begin to improve and finally take his place in the community as a wage earner as shown by the following example:

M. R. M. Female—Admitted to the Craig Colony August 16, 1898. Age, 18 years. Weight, 128 lbs. Height, 5 ft. 1½ in. Circulation, fair. Nutrition, poor. Tongue coated. Onset of epilepsy at fifteen

years of age. Birth said to have been normal. Attacks at first were three a week. At the time of her admission they occurred several times daily. Mental condition on her admission was given as imbecile. Her first seizure is said to have occurred with the onset of menstruation. Her mother had chorea. Patient had measles and whooping cough during childhood.

December 16, 1898. Patient has a great number of seizures and has failed physically and mentally since her admission. Some of her seizures are typical grand mal in type; others petit mal, consisting of a loud cry, loss of consciousness and no convulsion.

July 11, 1899. General improvement in her epilepsy and physical condition.

August 31, 1899. Discharged as much improved.

July 12, 1900. Re-admitted to the Craig Colony. She was married in September, 1899, one week after leaving the Colony. Physical examination on re-admission showed her to be poorly nourished. Weight, 111 lbs. Height, 5 ft. 6½ in. Her seizures are said to occur several times daily.

September 28, 1900. Patient is constantly complaining of various pains in different parts of her body. Imagines she has a tapeworm. Very difficult to control. Gluttonous.

January 1, 1901. Has had ninety-two attacks since admission, all grand mal in type.

August 16, 1901. Well marked signs of pulmonary tuberculosis are present.

October 1, 1901. Patient is quite thin. Mental enfeeblement becoming more marked.

April 1, 1902. Some cough with expectoration. Slight rise in temperature. Had 412 attacks, principally grand mal, during 1901.

July 1, 1902. Mental enfeeblement more marked.

January 1, 1903. One hundred twenty-two grand mal seizures in the past three months. Frequent periods of mental confusion.

October 1, 1903. Two hundred twenty-two seizures in the last three months.

October 16, 1903. Patient has well marked symptoms of pulmonary tuberculosis. Marked mental dullness. Very poor physical condition. Very poorly nourished.

January 1, 1905. This patient is much improved physically and mentally. Has had no seizures during the past year. Works in the laundry daily. Slightly quarrelsome and has frequent altercations with other patients.

January 27, 1907. This patient is to-day discharged from the Colony as recovered, having had no seizures in three years and six months. Her physical condition is most excellent and her mental

condition would compare very favorably with those in her station in life. Patient has gained over fifty pounds in weight during the time of her mental improvement and cessation of her seizures.

In an institution for epileptics the low grade imbecile, idiot and advanced dement can be grouped together as simple custodial cases the higher grade imbecile and partial dement may, in most instances, be allowed considerable latitude and prove of more or less value as a worker. Under no conditions can I imagine it advisable to domicile any mental grade of epileptics with the non-epileptic. When cared for in the same institution, the epileptic should be separated from the non-epileptic no matter how profound the mental impairment.

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- 14.—The Psychological Aspects of Epilepsy—W. P. Spratling. Transactions National Association for the Study of Epilepsy, etc., Vol. 2, Page 79.



ACCIDENTS IN INSTITUTIONS FOR FEEBLE-MINDED
AND EPILEPTICS.

BY H. G. HARDT, M. D., LINCOLN, ILL.

An accident is defined by Webster as "an event that takes place without one's foresight or expectation."

The subject is one of extreme importance. It enters into every phase of institutional life, from the most ordinary effort to the most complicated endeavor. Nothing weighs more heavily on the mental forces of the superintendent, not even the securing of a good, sensible attendant, than accidental possibilities. Emergencies will arise that demand tact and judicious handling. It is not necessary to be evasive or dishonest, but it does become necessary to prevent unduly exciting an easily inflammable mind. How easily parents are led astray by mendacious reports found in the columns of sensational papers.

The superintendent is a self-appointed investigating committee acting twenty-four hours a day. He passes from day to day through the several departments, judging, correcting, adding safeguards, instructing his lieutenants, and in general perfecting the system. Beginning with the executive officer and ending with the most menial laborer, the system presents the characteristics of an army, the size depending upon the number of inmates and helpers and the area covered. The army of helpers is assigned to different departments for varied work. The children are under the direct supervision of the attendants. They supervise the detail, call attention to irregularities and become closely identified with the system. It is this group which looks to the clothing, feeding, exercise, employment and recreation of the children. How many possibilities are present! Only accidents emphasize and mistakes magnify. Trusting and delegating duties to others has long been an excuse of indolent employes. The question arises, "What is to be done with an employe every time a mistake is made or an accident encountered that could have been avoided? Does frequent change minimize accidents and elevate the service, and does the crude, unsoldierized employe add to the efficiency of the force? Experience

soon answers, "No." The responsibility of the position is made evident by accidents. The service, to my idea, is benefited by the very fact of the occasional accident, providing that accident is not so severe as to destroy confidence in the service. It stands out as a warning, as a lesson; it produces more accuracy and care in detail work and is more effective than the substance of a two-volume book on duties of an attendant. Confidence is an essential element; over-confidence means carelessness.

In dealing with a normal family of romping, roving, joyful, healthy, growing children, it might be said that hardly an hour passes but that a bruise or contusion is met with; in fact, muscles are strained, ligaments wrenched, joints dislocated, fractures sustained, and even death during play is not unheard of. There are cases without number of accidental births as well as of accidental deaths,—the extremes,—the beginning and the end, to say nothing of the intervening years. Medical literature is volumes large on the various accidents and injuries to the human body.

On coming into the institution do children shed this cloak of accidental possibilities previously worn while at large? Or has some chemical force been brought to play to make this change, or is, perchance, the superintendent to cast a spell on them of prevention? No, not at all. The same blood circulates through the arterial tree; the same nervous phenomena exist, the same skin and muscles and bone are all there just as liable to accidents as ever. There is this additional factor to be considered, the bringing together of similars in groups or families, the same in their infirmities, their mental as well as physical defects, all subject to the jostling, pushing and scuffling that may occur in a crowd. Many of these movements may be sluggish, nevertheless, force is present, and the result may be a record. I will refer for a moment to the epileptics, principally those of the grand mal variety. It seems that the epileptic is especially susceptible to accident and injury. Newly admitted cases can be diagnosed in many instances without stopping to consult the admission blank or reading the family or personal history. The scars about the head and face as well as other conditions give plenty of evidence for a snapshot diagnosis.

The members of this group of our family are able at times to execute the finest work in handicraft and master the work in the highest

school grade; then, at other times, their lives become darkness, voluntary power is lost, home and friends are forgotten in these unconscious and semi-unconscious periods. These tremendous explosions of nervous energy in the form of spasms, shake the whole body, distort the features, and tear asunder the finer expressions that the mental forces but a short time before had been planning. Think of how, during these seizures, the individual in many, many instances drops as if shot, often head foremost, striking with a most sickening thud on the hard floor or pavement, or at times on sharp, projecting pieces of furniture or ornaments. Then again the tendency is to grasp that which is near and hold in a grip of steel; too often it is the one thing left unguarded. At night, when no helping hand may be present, these storms come on absolutely unavoidable by the sufferer. The individual twists and writhes, to be found in the morning cold in death from suffocation. Has nature given us this group which spares no color, race or sex, to study?

Returning to the feeble-minded, we speak of them as children whether they be six or sixty, grading from the school child to the purely custodial case. They have more physical stigmata than the epileptic, are less acute in their feelings and more defective in memory. These children, normal to themselves, are placed in the same relative standing to unforeseen things as is the ordinary child in the common walks of life. Institutional life has a tendency to produce a depleted physical being, which, superadded to an inherited condition, leaves a poorly reacting systemic condition. Taking the various classes together, they are subject to all the accidents from the crown of the head to the sole of the feet, of the human family anywhere. These may take place in the washroom, bathroom, playroom, dormitory, dining room, out of doors or in. In what home is there a place where a record of accidents could not be had? The kitchen is a fruitful source of burns. The sewing machine is a common instrument of accident. The wood shed is a fertile field for black eyes and bruises. The element of carelessness and mismanagement must be considered; it knocks on all of our doors, in the home, in the convent, and in the institution for the feeble-minded and epileptic.

There comes a feeling of inquisitiveness. It is, "do I, or do I not have as many accidents as my neighbors, and could they have been pre-

vented?" Five months ago I wrote a circular letter to the various institutions of the United States that care for feeble-minded and epileptics. Among the questions asked were the following:

What is your population?

How many epileptics have you?

How many accidents major and minor have occurred in your institution during the past six months?

An answer was received from twenty superintendents. Of this number only three showed that they kept a record of major and minor accidents. A number of superintendents reported an occasional fracture of clavicle, humerus, femur, radius and tibia. Some stated that no serious accidents had occurred in the past six months. Some stated that burns, fractures and scalp wounds were quite frequent among their epileptics.

1. One institution which reported major and minor accidents of feeble-minded and epileptics, showed that one in eight epileptics met with accidents in six months. That one in thirty-two feeble-minded met with accidents in six months.

2. Another showed that one in twenty-four feeble-minded met with accidents in six months.

3. A third showed that in a population of 1035, sixty-two accidents were sustained, one-half of which happened to epileptics.

4. A fourth states that with 107 epileptics and 318 feeble-minded, four fractures and eighty-seven minor injuries were recorded in six months.

5. A fifth reported the following in the children's department of an epileptic colony:

Lacerated wounds of the face	14
" " " " scalp	10
" " " " extremities.....	4
Burns.....	15
Contusions of the face and scalp.....	<u>25</u>
Total	68
Entire colony, including adults.....	1125

At the institution at Lincoln, Illinois, where 1260 inmates are present, 400 of whom are epileptics, the report of accidents for the six months ending May 30, 1908, is as follows:

	Ep.	F.-M.
Contusions and abrasions of the face and scalp not requiring suturing.....	39	28
Wounds of the face, ears, etc., sutured...	4	3
Wounds and contusions of the extremities	3	23
Contusions of the trunk		5
Burns of the face and neck.....	1	
Burns of arms.....	1	6
Burns of hands	4	1
Burns of buttocks	1	
Burns of scalp.....	1	
Burns of feet		3
Burns of legs.....		1
Fracture of femur		1
Fracture of humerus.....	2	
Sprain of the ligaments of shoulder.....	1	
	<u>56</u>	<u>72</u>
		56
Total		<u>128</u>

This shows that one in every seven epileptics meets with an accident in six months; that one in every twelve feeble-minded meets with an accident in six months. The question naturally arises, are these accidents avoidable, or unavoidable? Just a word on preventable accidents. It is a commonly conceded fact that greater liability exists where the forces are depleted. At least one attendant to every ten inmates is necessary for good service, yet how many of you go through a period of six months, yes, of thirty-one days with a complete, well organized attendant force? Experience has taught us the difficulty in securing proper attendant service. Many come to the institution to stay a little while to go on to higher things, and their interest is lagging and transitory. The tramp employe is one to be handled with the greatest caution. Those who change from one institution to another

of their own volition, or because they are discharged, prove to be just as deficient in the places they go to as they were in the places they left. I do not wish to appear in the light of denouncing the attendant class—far from it. No one knows better than an executive officer the trials and tribulations of an attendant. The salary, as a rule, is no inducement to length of service. The quarters in many instances are small and uninviting, the length of hours of service produce day tire and a tendency to load work on others, especially on children, and to assume that somebody else is looking after this or that, resulting in no attention and perhaps a record. Few institutions offer opportunities for man and wife. The female attendant is in the matrimonial market and where married people are barred from institutional service, the female service is young in age and experience and many mistakes are made before maturity in experience is reached, much to the worry of the superintendent and detrimental to the reputation of the institution. Rules are made to be broken, which application I have felt, at times, was first observed. Some institutions bury the book of rules and say common sense is the book of rules, but I have found it a fact that some must be told what common sense is. Other institutions have every room placarded with what to do and what not to do. I have an accident in mind where a child was placed in the bath tub by the attendant, the tap was turned on, the attendant left the room for a moment and on returning found that the hot water had already scalded the inmate's feet. Would you not think that common sense would tell that attendant to first turn the water on, test the temperature and then place the child in for a bath? How lightly some say, "I did the best I could."



SOME STUDIES OF THE MONGOLIAN TYPE OF
MENTAL DEFICIENCY.

BY JAMES H. MCKEE, M. D., PHILADELPHIA, PA.

It is as a pediatrician and not as an expert in your interesting field of labor that the writer appears in this paper. Fourteen cases may seem like a very small number, but of these only six were studied in an institution for feeble-minded children. (The Bancroft School at Haddonfield, N. J.) The others were observed in dispensary services, in consultation, or in private practice. A type that constitutes from three to nearly five per cent. of defective children is certainly an important one; only one of these cases came to us with the diagnosis made. (That boy was first seen by Professor Rotch of Boston, and his diagnosis was also confirmed by Dr. Fernald.) Another child was also seen by an expert and I have no doubt that her case was so diagnosticated but we were not informed of the result. Three of the children sent to us at Haddonfield had been adjudged cretins and two, half-cretins, this opinion being strengthened and confirmed in each case by the improvement under thyroid therapy. One of these children was seen years later by one of the foremost medical diagnosticians of this country. If he formed an opinion, after two hours of interested study, it was not vouchsafed to the parents. He simply recommended the continuance of the thyroid treatment.

A short time ago the writer read a brief paper upon the subject here chosen before a small coterie(12) of rather representative medical men. Not one among them was acquainted with the so-called Mongolian type. This, then, is my first excuse for this paper. I believe that it devolves upon you of the American Association for the Study of the Feeble-Minded to call the attention of the profession at large to this interesting and rather common form of mental deficiency.

Our etiologic studies have yielded but meagre results. Four of the children were males, the rest, females. In but two could a family history of tuberculosis be elicited. This was paternal in one case and on the maternal side of the house in the other. The

father had tuberculosis prior to the birth of one child whilst the family history in the other was very remarkable. The afflicted mother had necrosis of the right humerus in her childhood—seven pieces of bone coming away. Her mother (maternal grandmother) had several hemorrhages from the lungs and lost her four other children in their early infancy. The great grandmother on the mother's side also died of pulmonary tuberculosis. Glandular enlargements, too, were recorded in collateral branches of this family. On the father's side of the same family, one first cousin had suffered from arrested development. Insanity was revealed in two instances. The mother of one child perished by her own hand, and in the other, "there is a certain amount of mental trouble on the mother's side". But one child was the last born of a large family (10 children;) his parents were healthy, German folk and were not old. The father of another patient, though but fifty-one years of age, seemed much older than his years. One baby was the smaller of twins.

The presence or absence of the neurotic factor we could not always determine from histories. In one case it seemed certainly present in the mother. Possibly it was more important than is here indicated, as five of our cases were observed in the Semitic race. (It is only just to remark, however, that four of the five were studied at the Polyclinic Hospital and there the Polish Jews furnish a large proportion of our clientele.)

In not one case could we find positive evidence of inherited lues though two of our children presented keel-shaped foreheads, and one had incisor teeth that might have been considered Hutchinsonian had they not belonged to the deciduous set. Our patients came from all levels of society—from dispensary grades, from the middle walks of life, from the professional ranks and from the more favored classes. One was the granddaughter of a man prominent in our national life, and the mother of this child was one of the most cultured and cultivated women it has ever been my pleasure to meet. Geographic origin seemed of no importance. One of our children was born in Michigan, one in Illinois, one in Ohio, two in Massachusetts, and the others in Philadelphia.

Probably, as Shuttleworth says: "There is reason to believe that they are literally unfinished children and that their peculiar appearance

is really that of a phase of foetal life." Whether or not this corresponds to a type in the early history of man is interesting only from the speculative standpoint. The writer is firmly convinced that all of these children exhibit hypothyroidea; but whether this is causative of the other conditions, or whether the thyroid development like that of the rest of the economy is unfinished, he does not even venture an opinion.

PATHOLOGY.—It is scarcely necessary to call attention to the earliest recorded autopsy by Fraser, to the small brain with its marked simplicity of convolution and its decreased number of cortical cells. (Ireland, Shuttleworth and others). Wilmarth's studies at Elwyn are well known. In five autopsies he found extreme smallness of the pons and bulb (about one-half the usual weight), and certain important changes in the cerebral vessels (thinness of the walls and areas of atheroma.) Again, the frequency with which congenital cardiac disease is observed in these children is well known. (Sutherland found evidence of congenital affection (murmurs) in twenty per cent. of his twenty-five cases; H. Neumann describes three cases among thirteen mongoloids; Kassowitz, two among seventy-five cases; Siegert, one among four cases. John Thomson and Archibald Garrod (five cases) have also recorded interesting examples of these congenital lesions. The peculiar transverse fissuration of the tongue, often accompanied by hypertrophied papillae, is familiar to all. The characteristic dwarfing of the skeleton, the extreme looseness of ligaments and the interesting shape of the Mongolian little finger (Telford-Smith) are again commonly observed phenomena.

For some time I have been convinced that these children are the subjects of delayed ossification, such as cretins exhibit. Dr. Pfahler has promised me a radiographic study of several of these children. We shall make a report to the Philadelphia Pediatric Society at no distant day. I have secured what appears to be incontrovertible clinical evidence of delayed ossification in one case, that of a woman twenty-seven years of age who grew one and three-fourths inches in height when fed upon thyroid gland. In a case of Siegbert's, a girl nine years old, the Roentgenogram showed perfect development of the hand. We lost one patient, a baby fourteen months old. He apparently died of a tuberculous catarrhal pneumonia. We were anxious to secure an autopsy but I was not informed of the baby's death until it was too late.

SYMPTOMATOLOGY AND CLINICAL COURSE.— It will probably be well to simply tabulate the differences between this affection and the cretinism with which the physician not possessing expert knowledge, so often confounds it.

One child (case V) came to us with a record of some urinalyses. Uric acid crystals had been found and the find was accepted as supporting the diagnosis of cretinism. Yet, in the same careful history of her case, the following statement was made: "her playmates call her the 'little Jap.'"

DIFFERENTIAL DIAGNOSIS.—The diagnosis is very easy to make provided that the examiner is acquainted with the type. I have endeavored to differentiate it rather fully from cretinism, but it should also be distinguished from rickets and from "achondroplasia fetalis" (mikromedia). The former mistake I made in the case of a baby six months old. Seven months later, when she was seen again, a proper diagnosis was immediately made. The condition under consideration may be complicated by rickets. Achondroplasia possesses such distinctive features in the shape and size of the skull, the characteristic depression of the nasal bridge, the normality of the trunk and the remarkable shortness of the humeri and femora and the x-ray appearances, that one should never mistake it for anything else. The subjects of it, too, are usually of normal mentality.

PROGNOSIS.—The Mongolians are notably short-lived. If they attain the adult age they often perish in early adult life. Tuberculosis is a common cause of death. Nevertheless, Fraser's autopsy was performed upon a woman forty years old. Congenital cardiac disease will, as it does in the otherwise normal, render the prognosis for life more grave.

Physically and mentally, the Mongolian can probably seldom or never attain normality. (Shuttleworth states that he has observed the physical Mongolian characteristics in normal people.) Much may be done for them, however. I would lay special stress upon the need for careful physical examinations and the subsequent removal of physical impedimenta. Chief among these I should place special stress upon adenoids, enlarged tonsils, and refractive errors. Adenectomies should mean clean dissections and not merely partial curettements.

The remarkable, and often times grotesque mimicry that these



children exhibit, really spells imitation. It may be taken advantage of for we all know that in imitation we have a potent educational lever.

Thyroid therapy certainly brightens the prognostic horizon. One noble father, a cultured gentleman and an able scientific observer, said to me "...surprises us all the time," and...is a gentle, affectionate, lady-like child physically able to perform many domestic tasks and to indulge in some athletic sports. Every summer she swims and takes long walks through the mountains with her father. Mentally, she is a very interesting, though somewhat backward child. Now, she had been given thyroid from an early age under the impression that she was a cretin. One of our patients, the oldest, withstood an attack of basal broncho-pneumonia. Another, nearly nine years old, has recently recovered from an attack of septic diphtheria. She subsequently developed a near red antitoxin rash and exhibited a number of toxic symptoms. The eventual recovery was good.

TREATMENT.—I shall simply say a few words more about thyroid therapy, laying special stress upon the following observations:

A. That our patients, at Haddonfield and elsewhere, have always seemed to improve considerably under its use.

B. That parents, some of whom were professional men, have made similar and independent observations.

C. That other physicians, who had regarded these cases as cretins, had observed similar improvement and had regarded it as natural.

D. That one woman (twenty-seven years old) grew one and three-fourths inches in height.

E. That the children who had received thyroid early exceeded the others in height. (See group photographs.)

F. That only two cases have shown the typical tongue and neither received the thyroid extract at an early period.

G. That cures of eczema, constipation (Siegert), loss of bodily fat, and other somatic improvements have repeatedly followed its employment.

DENTAL IRREGULARITIES ASSOCIATED WITH MENTAL INFIRMITIES.

BY W. F. TREMAINE, M. D.

It is at the request of your President that I present this case of dental irregularity associated with mental deficiency and mouth breathing. This boy of six years, born of parents of more than ordinary intelligence, is sadly deficient in mental development, his parents saying, "He appears as a boy of three." He no doubt inherits his nervous tendencies from the mother—he has had two operations for removal of adenoids. The arch of both mandibles is very constricted as though heavy pressure had been exerted on each side of the face, flattening the jaw toward the median line, the lower, however, far more than the upper, as you will see from the imperfect models I pass around. Two teeth, molars on right side, articulate fairly well; two, on left, barely touch, while none of the others occlude and in the incisal region are open three-eighths of an inch. The lower mandible is so constricted that there is no room for the tongue, giving that member the appearance of being far too large for the oral cavity, the lips can be approximated with difficulty. He drools badly and his speech is almost unintelligible.

There are strong reasons for believing that the condition of the maxillary bones, if not of the mind, are partly, at least, the result of instruments known to be used at the time of parturition, for labor was severe and prolonged and the life of child and mother almost despaired of. I am endeavoring to expand the arches by a spring wire passing outside of and close to the teeth of the lower jaw, fastened by bands to the molars on each side. Expansion of the lower arch is being produced so slowly that I expect, as is generally the case, the upper will follow through the force of occlusion, the little patient suffering no pain and only little inconvenience.

Kyle, in his *Diseases of the Nose and Throat*, says: "The worst feature of these developmental deformities is, that, unless perfect nasal respiration is established early in life—i. e., before the fifth or sixth

year, or not later than the seventh—the bony and cartilaginous framework becomes so firm that little can be done toward increasing the nasal space for breathing, and the individual will of necessity be a mouth breather for life.”

The widening of the arch in the molar and bicuspid region sometimes amounts to one-half inch and in such cases the entire contour of the face becomes much changed. In many cases, where the efforts of the rhinologist have failed to relieve mouth breathing, relief has followed orthodontic treatment, not only at the age of six and seven but many years later.

The operation undertaken for this boy is no uncommon one in dental practice, although I must admit that the conditions are such that it is the most difficult one I have undertaken. The spring is removed and slightly expanded each week. It was adjusted June 1st and in the first two weeks we did not try to expand but let the boy get used to it and enough pressure was used to produce a slight irritation of the peridental membrane, which allows, through bone absorption, the teeth to be moved. In the first week pressure was used for expansion, one-sixteenth of an inch was gained and we expect a little more rapid progress in future. The patient resides many miles from my office and is not seen as often as is best, and the nervous and mental condition makes it extremely difficult to adjust the appliances. We may not be able to improve the child's mental condition, at least directly, but we do expect to bring about a nearly normal condition of jaws, allowing him to occlude the teeth, approximate the lips, give him a good masticatory apparatus which will help him to more properly prepare the food for the further processes of digestion and assimilation; give him room for his tongue, enabling speech to be far more intelligible, thus allowing him to associate as he cannot now, giving him opportunities which may result in increased intelligence.

Within the past decade, especially through the studies of Dr. Cryer, of Philadelphia, much light has been thrown on the internal anatomy of head and face, by which we have been able to gain a far better knowledge of the arrangement of various parts, and also to study the physiological and pathological relations of different structures. The fact that well rounded, fully developed arches are almost invariably accompanied by well developed ethmoid, sphenoid and

maxillary bones, we have learned, is not a coincidence but the result of a relationship among the different structures which is so intimate that the developmental influences of one part must affect to a greater or less degree the development of every other part. And, on the contrary, if the development of any part of the face be arrested, or if deformity occur early in life, the result will be a more or less abnormal, or deformed development of every other part. Because of this far-reaching influence, the operator in caring for the teeth of his little patient, should be eternally vigilant for the appearance of any aberration in the arrangement of the deciduous, or the development of the permanent denture. In light of the above, may there not be a more direct relation between mandibles and cerebral functions than we ordinarily consider—i. e., reflex action? No diagnosis is complete that does not consider the part affected in relation to the organism as a whole.

If I am not mistaken, those of your profession who are specialists, especially those treating lesions of the eye and ear, recognize that there is no region in the entire anatomy where reflex disturbances are more common, and with this fact in mind their diagnosis frequently begins with an examination of the teeth.

The author, in his inexperience has a hope, faint though it is, that the correction of this maxillary condition may result in some slight, direct mental improvement.





PROBLEMS OF FEEBLE-MINDEDNESS.

BY RICHARD M. MILBURN, JASPER, IND.

Our modern civilization brings with it many heavy loads to carry and many problems of difficult solution. Some of these are pleasant and some are extremely burdensome, but whether the yoke be light or heavy, it cannot be shifted.

I propose to take up some of the problems of the feeble-minded. In this term are included all grades of idiocy and imbecility, from the child that is simply dull and incapable of profiting by the ordinary school, to the gelatinous mass that simply eats and drinks. It is hard to give a definition of feeble-mindedness. The higher grade of this class can hardly be distinguished from his normal brother. Those at the other end of the school are human beings in name and form only. They experience no sensation and the five senses are to them unknown. Although human in form, they cannot feed, dress or care for themselves. They are as helpless as infants except that they have the power of locomotion.

What shall be done with the feeble-minded? Happily this is no longer a problem in most of the states and the prospect is fair that it will not be in any state very long. Civilization was many thousand years in answering the question, but the right answer has at last been given. The only place for the feeble-minded is in a custodial institute where they can be prevented from harming others or harming themselves, and where life can be made as pleasant for them as falls to the lot of the average human being. There are few, if any, homes capable of caring for the feeble-minded child or adult with any degree of satisfaction. They are a burden to themselves and others. The parents, brothers and sisters are worn out trying to care for them and shield them from the storms of life. Everything they do, or attempt to do, or with which they come in contact, is a worry to the family. The family is humiliated by their inability to keep up with the class at school if, indeed, they can be sent to school; with their inability to care for themselves; the foolish things that they do and say; by seeing them become the butt of jest, ridicule, jibe and sneer.

"Countless loving mothers have been worried into nervous breakdown, insanity or an untimely grave by the ceaseless anxiety and sorrow caused by the presence of the blighted child in the home. Many fathers have been driven to drink, sons to the "gang" and daughters to the streets, to get away from the unnatural and intolerable home conditions caused by the defective one. The home care of a feeble-minded child consumes so much of the vitality and energy of the wage-earners of the family, that often the entire family becomes pauperized. It is a public duty to relieve these families of their unbearable burdens."*

The older the child becomes, the greater the home problem. Some, though not many, are vicious; all have weak will power; most of them, an imperfect sense of right and wrong. The males often become loafers, paupers, preys upon property, ravishers of women and young girls. The women fare no better. Though possibly no more passionate than others, from the fact that they nearly always possess weak will power and a blunted sense of decency and a reduced sense of responsibility, they are decidedly more apt to be led astray and become the mothers of illegitimate children and not infrequently prostitutes, and as such become the spreaders of disease to a community and a further means of debauching others.

Many authorities are of the opinion that fully ninety per cent of the inmates of houses of ill-fame are mentally defective. My own observation is that fully three-fourths of the mothers of illegitimate children are weak-minded.

Probably less than half of the feeble-minded who remain out in the world ever marry. If they do, the burden on the community is not lessened, but, on the contrary, is increased, for their children are almost sure to be weak-minded also. Marriage ties, when contracted, are very often held lightly by the feeble-minded, but at any rate, the result is an increasing crop of idiocy, epilepsy and physical defectives.

"In one family in Indiana, whose history has been kept for five generations, out of 111 persons, nearly all were mentally defective. Out of 803 families in Indiana, whose history has been studied because of feeble-mindedness, 1,664 feeble-minded persons were found out of a total of 3,048 members, being 55 per cent. feeble-minded, and of these,

*Walter E. Fernald; Care of the Feeble-Minded.

57 per cent. were descendants of feeble-minded parents, and 60.6 are either physically or mentally deficient.

"While it is easily possible for parents of normal faculties through dissipation, vice or disease, to produce feeble-minded offspring, there seems no method by which the tendency can be reversed and the degeneration thus easily accomplished, displaced by regeneration and restoration in succeeding generations."*

Massachusetts, Maine, Connecticut, Kansas, Ohio, Indiana and New Jersey have laws against the marriage of the feeble-minded. Similar laws should be passed in all the states.

Moreover, though the feeble-minded may be, and often are found in any sort of a family, no matter how rich or great, from the fact that like begets like, the family of the feeble-minded is generally poor and incapable of either taking care of him or giving him the proper schooling and training, or throwing around him the protection he requires. So, as a rule, the best results are obtained by placing the child in an institution devoted to the care, training and treatment of this class of defectives. At what age should this be done? This, of course, will depend to a great extent upon the circumstances of each particular case, but as a general rule this should be done when the child would naturally start to school, say at six years or a little later. But no matter what the age of the person, it is better to place him in such a home, if he will be received. Most institutions refuse to receive those much over twenty-one years old. There were only 1.7 per cent. of the total persons admitted to institutions during 1904, who were infants under five years of age; but 21.8 per cent., from five to nine, and 20.7 per cent., from fifteen to nineteen; 33 per cent., from ten to fourteen; so that in all, 77.2 per cent. of the admissions occurred before the twentieth year of life had been reached. The admissions at the ages from fifteen to nineteen years were more than twice as numerous as in the age-group of twenty to twenty-four years, and in the subsequent age periods the number admitted diminish rapidly. Yet the admissions between the ages of twenty and thirty-nine years constitute 18.3 per cent. of the total number. The occasional commitments of persons above the age of thirty are presumably made for the purpose of safe-

*Amos Butler; *The Burden of Feeble-Mindedness*.

keeping rather than with the hope of training and educating the individual.

Can feeble-mindedness be cured? Generally speaking, feeble-mindedness can not be cured. It is a condition. Inmates of institutions, practically without exception, are benefitted by their residence. In some cases the amount of improvement is very small, perhaps, simply the overcoming of some vicious habit—this is in the lower forms. In the middle and higher grade, the advancement is much greater, but the defect in all feeble-minded cases is of such a nature that they never do nor we expect them to, reach a normal condition. It is true that a number of inmates leave the institutions from time to time, and under judicious home care they are useful in and around the home in varying degrees, but if left to their own reliance, they inevitably fall. The advice, therefore, in almost all cases is that the feeble-minded child should remain indefinitely in the care of the state. The purpose of the institution is to continue the development so far as their limited capacity and the means provided will permit and to make life as agreeable as can be done for these unfortunates.

Is it safe to return the child to his home after a season in an institution, though he be not cured? The answer to this question should be, "No". Occasionally, there is a backward case who is simply slow in acquiring knowledge, but who possesses comparatively good reasoning faculties and is capable of going out into the world and making his way independently. Such cases, however, are not the typical feeble-minded cases. The latter are never successful in the general community even while they appear to be so temporarily if they are under the careful guardianship of relatives or friends. The great majority do not have this protection. Therefore, the other purpose of the public institution is to provide a community home where each inmate, according to his ability and temperament, finds his useful place and where he can fill out his life to the measure of his ability in happiness and contentment. The actual discharge, as shown by the records, would simply indicate those taken out by parents for reasons of their own (except the few backward children.) They either return in due time or are cared for under careful supervision by the parents or relatives so long as they live, or drift into the army of tramps. With the average citizen's increasing knowledge of the sociolog-

ical conditions, a more intelligent differentiation of defectives and delinquents is being made, and the public is more and more recognizing the advantage of the special, permanent homes for the mentally incompetent. As an actual fact, feeble-minded girls outside of the institution are very apt not to remain virtuous. Boys are more apt to remain normal, but, when, as is often the case, they are enticed into vice, they have not only less will power for resisting temptation, but less sense of responsibility than the normal boy who has been reared under average conditions. Many feeble-minded boys are making very bad records, drifting from place to place and spending what they are able to earn from time to time on vicious indulgences, often going without proper food or clothing. Some of these boys are particularly difficult to control. They are just mentally weak enough to appeal to the sympathies of people whom they meet and yet have very little self-control and absolutely and constantly resist all efforts towards restraint.

Is feeble-mindedness on the increase? Yes and no. The first attempt to ascertain the number of feeble-minded in the United States was in the census of 1850. In 1880, the work of the regular enumerators was supplemented by that of physicians who reported more than 25 per cent. of the 76,895 persons enumerated as idiots. It was found that year, taking the census as correct, that 15.3 per cent. out of 100,000, were feeble-minded. The census for 1890 showed 95,571 idiotic and feeble-minded persons. Of the whole number, only 6,315 were in special institutions for the feeble-minded. The census of 1900 is now at hand. It was not thought advisable to attempt so make a census of all the idiotic and feeble-minded in the United States as the statistics were too unreliable. The estimates made by competent authorities, including the census officials, place the number of feeble-minded in the United States—that is all persons so pronouncedly feeble-minded as to stand in need of institutional treatment—at not less than 150,000. Yet, on December 31st, 1903, the entire population of feeble-minded institutions, both public and private, numbered only 14,347. It was thought that in addition to these there were at least 16,551 supposedly feeble-minded persons among the inmates of alms-house.*

*John Koran—Special Report of Bureau of Census "Insane and Feeble-Minded in Hospitals."

It is utterly impossible to arrive at even an approximate estimate of the number of feeble-minded in the United States. In the first place, it is hard to know just where to draw the line between the feeble-minded persons and the normal one. Persons who would be classed by some as feeble-minded, would be classed by others as normal. For instance, a warden who has charge of 800 prisoners says that 60 per cent. of them are mentally defective, and another one who has 1082 under his control, placed only 14 per cent. in that class. Again, relatives hesitate to class those in their homes and of their families as feeble-minded. The only way an approximately correct estimate can ever be made is to have a commission make a study of several communities and seek out and learn the number of feeble-minded and their relative proportion to the whole population and with this and the census figures as basis, making an estimate for the whole country.

With the spread of Christianity, the growth of humanitarianism, the increased means of sparing and prolonging life, many feeble-minded persons are now alive who under conditions prevailing a century ago would have been dead. Some of these have brought children into the world and the chances are two to one that these are also feeble-minded. In this way it is on the increase.

Does it pay? The answer to this question is found in the statement that some way or somehow the feeble-minded are sure to be a burden upon the public. There is practically no way of escaping the responsibility, and the truth is also being brought home that the feeble-minded are almost, if not quite, as dangerous to the community as either the criminal or insane. So, the public has really no choice in the matter. They may be in jails, they may be in penitentiaries, they may be in almshouses, they may be supported by the overseer of the poor or the charity of neighbors and friends, or in houses of prostitution, spreading contagious disease, but the bill is always sent to the public to pay. There could be no better business proposition than the expenditure of money in placing feeble-minded persons where they cannot become parents and thus bring defective paupers into the world. But aside from the business end of the proposition, the feeble-minded have the same claim to be properly taken care of as do other defectives. The problem of the adult feeble-minded is not yet solved. The question of what shall be done with the feeble-minded in state prisons, almshouses,

bawdy houses, and adults in their own homes or tramping over the country, is one of very difficult solution. Nearly half the inmates of almshouses are feeble-minded. Without question, a large per cent. of the prostitutes belong to the same class.

Questions propounded to the various wardens and superintendents of prisons and reformatories in the United States as to the number of feeble-minded in the state prisons and reformatories, met with various responses, the different estimates ranging from 4 per cent. to 60 per cent. Warden J. D. Reid, of Indiana State Prison, says:

Of the present prison population of 1082, there are classed as mentally defective, 142, subdivided as follows:

Insane now, or giving a history of having been committed to a hospital for insane.....	71
Borderland cases, the symptoms not as yet conclusive.....	12
Epileptic	20
Giving a history of epilepsy.....	15
Feeble-minded	17
Various forms of degeneracy.....	7
	<u>142</u>

Of those classed as feeble-minded, probably not more than five or six would have been accepted by the school for feeble-minded in their youth. The others we have usually classed with our insane; they would all be classed as high grade feeble-minded, with very few exceptions, being able to read and do manual work. Under the classification of Dr. M. W. Barr, they would come under the head of backward, or mentally feeble. Backward, or mentally feeble are those with mental processes normal, but slow and requiring special training and environments to prevent deterioration. Defect imminent under slightest provocation, such as excitement, overstimulation or illness.

It may, perhaps, be of interest to state that of the last 850 admissions to the institution, the mental classification was as follows:

Dull	140
Fair	124
Active	586

This includes the insane and epileptic.

Active, is interpreted in relation to a man's station in life, and without regard to educational advantages.

Superintendent W. H. Whittaker, of the Indiana Reformatory, says that fifteen or twenty persons in the reformatory ought to be in

the feeble-minded institute at Ft. Wayne, and that in justice to themselves and the state they should have been sent to that institution when they were young. He is always of the opinion that fully 50 per cent. of the inmates of the reformatory are abnormal and have a weak spot somewhere and that neither their families nor the state should have been disgraced by sending them to a penal institution. Continuing, he says:

I am now advocating and expect to advocate as long as I am in this class of work, that there should be an institution built in Indiana which would be a sort of "clearing house" for the defective class of the state. To this institution every person convicted of crime should be sent under expert treatment for from six months to one year. This treatment should be for classification purely. The institution should not be known as a penal institution but as a hospital for abnormals. Under this treatment which I have suggested, these people could be classified and if it were found that a subject was normal and a criminal, and could probably be reformed, was under thirty years of age and over sixteen years old, he should be sent to the Indiana Reformatory for further treatment. If he were under sixteen years of age, he should be sent to the Boys' School at Plainfield. If over thirty years of age, to the state prison at Michigan City.

If, after a term of six months or a year in the detention institution, the individual was found to be abnormal and in the management's judgment should never be released because of this abnormality, he should remain in this institution I speak of. This class of citizen in such an institution, under supervision, will be of no trouble to the state, and can be made self-supporting by his work. There should be connected with such an institution a large body of land where enough vegetables and agricultural products could be raised so they could practically make their own way. This, in addition to work-shops which could be established, would put the institution upon such good commercial basis that it would not cost the people one cent to operate it.

The feeble-minded adults in the home of relatives and friends, or tramping, or in almshouses, should, at the very earliest possible moment, be placed in some custodial institute; it would be a saving of money; but as long as the capacity of the institutions are taxed to take care of the young, this can hardly be expected. Indiana has already made a beginning along this line by the care of the feeble-minded women, mostly prostitutes, at the Ft. Wayne institution, these being in a separate building and quite a distance apart from the children.

Can feeble-mindedness be prevented? To answer this question we must arrive at the causes of feeble-mindedness. These, from the best authorities may be given as follows:

1. Heredity, syphilis, trauma, deprivation and struggle for existence. It is claimed by some experts that 56 per cent. of the feeble-minded children come from parents with a tuberculous taint in their blood. A large number of others are caused by the excessive use of alcohol by the parents, and parental immoralities.

2. Accidental causes: (a) Variation from the normal type such as produced monstrosities and for which there is no known cause. (b) Physical accidents which have destroyed some special sense. (c) Disease, such as scarlet fever, meningitis which has destroyed or injured the nerve tissue. (d) Environment, such as bad food, air, and treatment in infancy.

The causes of feeble-mindedness, as given by the official records in the school for feeble-minded youth at Winfield, Kans., are as follows:

Thirty-five per cent., sickness or injury during childhood.

Fifteen per cent., maternal impressions or other hereditary causes.

Fifteen per cent., marriage of blood relatives.

Thirty-five per cent., unknown or from various undefinable causes.

As to the intermarriage of blood relatives, William W. Longstreth, who has made a special study of this phase of mental defects, says that no other cause, unless it be intemperance, does so much to produce physical, mental, and moral degeneracy, and to people the world with a "population which bewails its birth, its existence and its offspring," as the intermarriage of near relatives. The experience of every race and of every age shows that the intermarriage of relatives leads to the degeneration of the offspring or extinction of the family. The children of such marriages are liable to disease of the brain and nervous system and subject to insanity, idiocy, epilepsy, defective sight, speech, hearing, and consumption.

It may be said that feeble-mindedness is no respecter of persons, and while this is true, statistics show that a large majority of the feeble-minded come from parents who are themselves more or less defective, the only preventative being the prevention of marriage and better physical treatment and training.

THE PROBLEM OF THE FEEBLE-MINDED FOR THE GENERAL PRACTITIONER.

BY SMITH BAKER, M. D., UTICA, N. Y.

I find myself quite stupidly occupying the anomalous position of trying to speak for those whose ranks I left some score of years ago. Had I realized this was the obvious meaning of my acceptance of the invitation to speak upon "The problem of the feeble-minded from the Standpoint of the General Practitioner," I certainly should have declined, in spite of the sweet persuasion of your accomplished president and the encouragement of some of my neighbors.

To the general practitioner the problem of the feeble-minded seems to appear much as did the camel when first seen at the circus by the farmer, who, after having heard many enthusiastic descriptions and having looked upon it quizzically for himself, was heard to exclaim, "Oh, shucks, there ain't no sech thing!" For the fact seems to be that until the times of Esquirol and the elder Seguin, there had been scarcely any such thing as a problem of the feeble-minded for anyone and even when I was a medical student, not more than forty years ago, my preceptor made me learn first and most of all, after the puzzling vertebrae and their points, all the bones of the cranium with all their distinctive surfaces, processes and appositions, but never a word about the brain or mind as such, or any of its hindrances or failures. And so it went all through my course until graduation. So far as the feeble-minded were concerned, they had all along been considered as "just fools", and so they remained long after, until, in fact, interest and curiosity led me to attempt a clearer and more accurate acquaintance and designation.

And so, I fear, it has been with the majority of general practitioners, older or younger, since that day. For them, the feeble-minded have not been of particular interest, and by them have not been given enough accurate attention to justify even the suspicion of a problem, unless, forsooth, some particular case, possibly in some imperatively familiar relationship, has made it especially desirable that some-

thing of the kind be conceived and solved. But even in such cases the matter has rather more generally been left for solution to the households and their rather chance allies—certain institutions selected somewhat at random—than accepted very responsibly by family physicians. Nevertheless there is a problem of the feeble-minded for the general practitioner, in fact, many problems, to the solution of which he cannot very much longer refuse due and timely consideration; and it is probable that it will not be very long before the medical schools and clinics shall undertake to include in their curriculums, much fuller information and training in this needful and growingly broad field, than has yet been generally the case—not forgetting or despising in the least the marked improvement it recent years.

The problem resolves itself obviously into three important sections: First, that of early and accurate diagnosis; second, that of determining causes and pathology; and third, that of adaptable and comprehensive treatment. Without the first and second, much of the latter may be entirely miscalculated, or, quite as pathetic, begun altogether too late to secure the best results. There can be no timely and accurate diagnosis of feeble-mindedness without the ability to make a strict comparison, organ by organ and faculty by faculty, of the case in hand, with some standard that is so truly applicable that violence will not be done to it, either at the time or afterward. By this I mean that in a given case even a specialist, who may have only in mind certain standards that are ideally correct, may yet do gross injustice to the particular case in hand; while another, with a standard somewhat more flexible, if not quite so erudite, may yet be much more capable of discerning the truth that is really necessary and of acting upon this, to better ends. There is need of exercise of that which makes up "good judgment," especially of the intelligent and skilled kind.

Bearing in mind, then, the scope of certain of these qualifying considerations, let us first seek for some sort of standard especially of the neuro- and psycho-motor order, which will be accurately serviceable for comparison in connection with every suspected case, and this from the earliest hour of post-natal life. Perhaps for this last purpose no better findings can be named than those of Preyer, especially if supplemented by the studies of Warner, Stanley Hall, Donaldson, Darwin, Taine, Baldwin, Chamberlain, McDonald and their like. For

example, let us quote from Preyer's, *The Mind of the Child*, as given by Sachs in his *Nervous Diseases of Childhood*, in order, especially, to see if such pre-determined standards are likely to be worth while:

During the first month the child recognizes differences between light and dark objects (even on first day); follows with its eyes objects moved slowly before it (as early as eleventh day); begins to hear about the fourth day; recognizes sounds toward end of first month; learns to distinguish between bitter and sweet; recognizes disagreeable odors; first tears on twenty-third day during a crying spell; expresses displeasure by turning head away, by shutting its eyes and, of course, by crying; begins to smile.

During the second month—Recognizes human voices and direction from which sound comes; turns head toward low sounds; is quieted by songs; smiles when music is heard; recognizes its mother.

During the third month—Moves arms, expressive of pleasure; listens attentively; is able to support head a little; uses definite sounds in crying.

During the fourth month—Associated eye movements perfect; stares at new objects; recognizes strange surroundings; reaches after distant objects; first attempt to sit upright.

During the fifth month—Recognizes strangers as such; likes to take hold of everything; stretches out its arms to be taken up; holds head straight; sits alone; moves legs as if to walk; forms syllables.

During the sixth month—Distinguishes faces; stares at strangers; smiles, if smiled at; smiles with relatives, not with strangers; turns its head toward a person leaving the room; begins to creep; "crows."

During the seventh month—Follows objects dropping out of its hands; recognizes its image in mirror with evident pleasure; points with finger at pictures; purposive movements; associates persons and names; extends hand when asked; articulates a number of different sounds in crying and in "lolling to itself."

During the eighth month—Sits upright when it is carried; some children attempt to stand and walk.

During the ninth month—Begins to imitate tunes; laughs heartily; begins to beg for things.

During the tenth month—Takes an intense interest in its food; recognizes parent after absence of several days; he begins to walk alone; answers questions by motions and indicates where certain things are.

During the eleventh month—Stands quite alone; pushes chairs; makes first attempt to repeat sounds impressed upon its mind; begins to articulate its own name; understands language fairly well.

During the twelfth month—Imitates laughter of others; stretches its arms out to enforce its demands; improvement in walking and standing; looks at others attentively while they eat.

During the fourteenth, fifteenth and sixteenth months—Independent speech is acquired and repeats spoken words easily; in seventeenth month may speak short sentences, using verbs; from this time on there is steady improvement in memory of words and use of language.

At two years, child may learn to repeat rhymes, to detect colors, etc.

Certainly it is not too much to say that some such accurately determined standard as this, discreetly modified to be adaptable to the case in hand, may prove to be much more useful as a rule, than the guesswork which otherwise must prevail. And just as certainly is the child itself entitled to all that it may suggest or secure for him.

Were I to indicate just where the investigator's attention should be rather most particularly devoted, I should not hesitate to name the faculty of imitation, especially during the period of its first crude exercise. Says Baldwin, in his little but wise book, *The story of the Mind*:

During the second half-year—sooner or later in particular cases—the child is ready to begin to imitate. Imitation is henceforth, for the following few years, the most characteristic thing about his action. He first imitates movements, later sounds, especially vocal sounds. His imitations themselves also show progress, being at first what is called "simple imitation," as when the child lies in bed in the morning and repeats the same sound over and over again. He hears his own voice and imitates it. In this sort of imitation he simply allows his instinct to reproduce what he hears without control or interference from him. He does not improve, but goes on making the same sounds with the same mistakes again and again. But a little later he begins what is called "persistent imitation"—the "try-try-again," which is a very different thing. Persistent imitation shows unmistakably the presence of will. The child is not satisfied with simple imitation or mere repetition, whether it be good or bad in its results. He now sees his errors and aims consciously to improve. Note the child's struggles to speak a word right by imitation of the pronunciation of others. And he succeeds. He gradually gets his muscles under control by persistence in his try-try-again.

Then he goes further—about the beginning of his second year, usually. He gets the idea that imitation is the way to learn and turns all his effort into imitations experimentally carried out. He is now ready to learn most of the great processes of his later culture. Speech, writing, this special accomplishment and that, are all learned by experimental imitation.

However, it should be most strictly remembered that it does not

follow at all, because some particular child deviates rather markedly from this standard, so specifically determined and substantially corroborated by many observations, that it is necessarily foredoomed to marked feeble-mindedness further on. As everybody knows, the limits within which normal-mindedness may be tacitly assumed are pretty wide, and consequently there should be no haste to place the stigma of the exceptional on any greater number than is absolutely necessary. But in every case where much deviation is marked, even at the early period of one to two or three years, there is a field for legitimate questioning which undoubtedly imposes a problem on the general practitioner, the solution of which he cannot rightly evade simply for the reason as already affirmed that he is most likely to be the first whose professional attention will be invoked, and can know the most about certain antecedents as well as all those other facts in the child's history which may have a most important bearing on the subject. That is to say, while the condition of the child may at this given time be only that of a "suspect," this fact, when taken in connection with its entire life history, may constitute a link in a chain of real evidence that may resolve the case into a certainty which cannot be gainsaid.

Undoubtedly, all this applies, not nearly so much to cases of idiocy or imbecility that are advanced enough to admit of anyone's judging them accurately, as to the larger class of very early "suspects" which may defy the best efforts of the most specialized diagnostician, even until time shall have made the manifestations dramatic enough for confirmation. It is here, if ever, that the family doctor should be as much of an expert himself as practicable and thus competently ready to adopt and advise measures for such potent remedy as may be possible. In order to do this, however, the content of the next division of our subject must be kept in mind, namely the known causes of feeble-mindedness, as presented, say, by Sachs, or by some other equally authoritative author. Thus says Sachs again:

Congenital idiocy is a common occurrence in families with marked neurotic taint. Parents who suffer from some form of insanity, from hysteria, epilepsy, or chorea are apt to engender idiots. Among other predisposing conditions, alcoholism and syphilitic infection of either parents are by far the most frequent. The importance of alcoholism, in particular, cannot be overrated. The alcoholic habits of the father at the time of procreation are surely a potent factor. Syphilis of the

parent must be taken into account. Premature delivery is not uncommon in syphilitic cases, and an imperfectly developed brain at the time of birth may be the cause of idiocy. Intermarriage is supposed by many to be a direct cause of idiocy in children. Traumatism during pregnancy is another factor in the development of idiocy in the child.

In respect of acquired idiocy he says:

This class includes a very large number of conditions, due to the most varying accidents and diseases. First and foremost, although the cause is operative at the time of birth, we must include that large number of idiocies due to traumatism during labor. In the histories of children who have become idiots, it is often stated that the child was asphyxiated at birth; that it had frequent spasms during the earlier weeks of life, and that it exhibited marked rigidities and palsies of the extremities. Among the causes of acquired idiocy none is more important to my mind than convulsions. The entire development of a child may be normal until a convulsion occurs, whether as a result of some intestinal derangement or as the precursor of an acute infectious disease. From this time onward, mental decadence sets in and a child that was previously healthy and of normal mental development begins to exhibit more and more marked mental defects until it reaches the condition of complete idiocy in which it may remain for many years. Idiocy is developed not infrequently after acute meningitis early in childhood. Idiocy, blindness, all these conditions separately, and sometimes conjointly, are unfortunate results of early meningeal disease. The association of idiocy with hydrocephalus is common, but as this condition is generally a secondary state, both the idiocy and the hydrocephalus are the result of the primary disease. Idiocy and epilepsy are intimately associated with one another. In all cases in which epilepsy has been developed early in life, or in which the epileptic seizures are frequent, there is a natural tendency to mental deterioration.

In other cases, undoubtedly, we must look for the etiology of feeble-mindedness in defects of the circulatory system in which nutrition of the nerve centres is abnormal, or else in agenesis of the brain centres, which of course is beyond direct determination except through intelligent inference. Nor should the general practitioner, these days, be entirely excused for neglecting the now commonplace etiological factors that are to be discovered in defective ears, errors of refraction or muscular balance, nasal deformities and hypertrophies, obstructive tonsils or adenoids.

In a recent table, reported by Bryan (Superintendent of Schools in Camden, N. J.) in the Psychological Clinic, for April 15, 1907, I find

that of 1487 cases of retardation, 82.8 per cent. presented physical defects of some kind. Thus in 1202 children examined, 80.8 per cent. had defects of the eyes; 15.6 per cent., defects of the ears; 21.2 per cent., enlarged tonsils; 16.5 per cent., nasal stenosis; 2.7 per cent., adenoids; 6.7 per cent., badly decayed teeth; 10 per cent., finger twitches; 22.3 per cent., malnutrition; 45.2 per cent., nervousness; 31.6 per cent. were too easily fatigued; and 19 per cent. had mental defects of a noticeable sort. The examination seems to have been unusually painstaking, and it is probable that it may be taken as at least sufficiently suggestive to furnish ground for universal attention and effort, especially as more than 50 per cent. of these were found susceptible of gratifying remedy. In fact, it is not now a very difficult matter for anyone to learn how roughly to determine the presence of these physical interferences with proper sensory-motor functioning and there are plenty of specialists ready to confirm the diagnosis and undertake the proper remedy. And so it can be said of defective nutrition, mal-functioning secretory organs, and under-or unequally developed circulatory and nervous systems. The general practitioner has here a field in which he can display knowledge and enterprise which will not only be just to the case in hand but likewise give himself much personal satisfaction as a rule, and develop credit with his clientele that must always be worth while. With reference to all these cases, then, simply to say that a child is an idiot, an imbecile, a vicious pervert, or an hydrocephalic, or a cretin, or syphilitic, or epileptic, or victim of cerebral hemorrhage, or meningitis and the like, is conventionally all right. But to stop here constitutes a sorry sort of glory, at best. What is needed is to see that obstetric trauma may require, as Cushing has pointed out, immediate cranial operation; that syphilis needs skillful remedy from the first; that hydrocephalus and meningitis and epilepsy and cretinism and accidents and ordinary convulsions jeopardize the child's future welfare seriously, and that there is a moral as well as a professional imperative that every case be given the benefit of all the legitimate care and even wise experimentation that may be possible. In fact all such grosser etiological factors taken into connection with mental absence or retardation or perversion constitute problems that every general practitioner may try seriously to cope with, and this at the time when the psycho-physical elements are most plastic, and consequently most susceptible of remedy.

Clearing the field of these grosser cases, however, does not clear the field of the absolute necessity for investigation much more important. There are cases, and the class is daily growing larger, of "those peculiar children" described by Dr. Holmes in *Elsie Venner*, as "those for whom parents go on hoping every morning and despairing every evening," technically designated as semi-imbecile, or inherently vicious, or functional perverts where the mental and nervous defects alone make up the symptomatology almost in full and where, after accurate diagnosis, the problem may not be so properly referable to medicine and surgery, as to intelligent, comprehensive pedagogy. Of course it seems at once that here the general practitioner should be excused from further responsibility. Nevertheless, it seems to me that just here is where his most brilliant, most helpful work can actually be done, and that in no sense should he excuse himself from engaging in this work on the plea that practicing medicine and not teaching is his business. Certainly no one in the immediate connection can differentiate these cases as accurately as he and thus become able to indicate what would better be attempted in order to secure needed results. Most often, in fact, he is the only one available who presumably has sufficient acquaintance with the case and its antecedents and who has sufficient knowledge of the technical kind to admit of anything like a true appreciation of the condition and its needs. Generally speaking, the parents are not thus qualified; the question of institution or an expert is often too remote or too debatable and the ordinary school-teacher is generally quite too inadequately prepared, or is too busy, fully to do what the case needs. Often it is a matter in which the family physician should even be proud to take a leading part on account of both the professional good sense implied and the important human consideration required. Where in the immediate family there is a trained kindergartner or otherwise properly educated member, it ought to be a most agreeable experience thus to suggest and aid and even to require every sort of helpful measure practicable. When the pre-millennium comes, of course every possible mother will be better prepared than now to intelligently execute scientific requirements in the care of all her children; and then the physician may be excused if he lets her do it entirely.

With some such comprehensive diagnostic and etiological foundation for a professional judgment in mind, the general practitioner is

certainly better prepared than otherwise, to indicate and act upon whatever measures are primarily or ultimately required to be undertaken for the child's best and most permanent good.

When a case of idiocy or imbecility has sufficiently developed to be a menace to the family, or the neighborhood, or to have an exclusively unfavorable prognosis as to its history, there can be no question about the necessity for consigning it to a suitable institution, and I should say the earlier the better. Just what the general practitioner is legitimately to expect from the institution and its experts, is, however, by no means easy to decide upon. That the institution shall endeavor to be a substitute for a real home to every extent possible, seems but fair. That, moreover, it shall be a real laboratory for the proper study of these cases, and whence information shall come for general use, needs no argument. At best, every case of feeble-mindedness presents problems that need the best efforts of everyone concerned. In the matter of committing a case to an institution, undoubtedly not only will the opposition of parents have frequently to be encountered, but also the family physician's own indecision will sometimes be found disastrously to interfere with the timely execution of such a step. In fact, both parents and doctor, under some vague impression that possibly the child will outgrow the conditions, will frequently conspire together, as it were, thus to interfere with the very best interests of both the child and the family. Yet the utter futility of such a hesitant course, to say nothing of the negligence that ultimately proves little less than criminal, is apparent as soon as one looks closely at any series of concrete cases, whatever. Thus an instance which illustrates the un wisdom of such a course was that of the semi-imbecile, an only son of a man and his first wife, who, living at home after the marriage until a daughter had reached twelve to fourteen years of age, was seen by the stepmother to follow the latter about closely and leeringly, and consequently was reported to the father as possibly unsafe. The latter declined to interfere on the ground that it was all nonsense, and the family physician limply, if not worse, joined with him in scouting the idea of danger. Nevertheless, after the little girl had been insulted by several indecent exposures, she was suddenly grabbed one day and saved from disastrous rape only by accidental interference! Worse than this even was the case of a sexually procacious girl who was discovered initiating a whole school room

full of girls into the art of masturbation and associated vulgarities, but whose parents successfully defied the efforts of teacher, principal, and even of the superintendent to have her removed, until a member of the medical profession boldly took a hand in the matter, to his subsequent annoyance and loss, and, it must be said, permanent disgust with this phase of professional duty. I recall the case also of a boy about five years old that I had advised should be removed from the home full of little ones to The Institution for Feeble-Minded at Syracuse. The parents looked upon me as little else than a monster, until one day the boy struck his sleeping baby sister such a blow upon her eye as to most seriously endanger it, and was seen soon after to threaten another with a hot poker. From a current newspaper I glean another suggestive case that has recently come before the public: "An attempt was made on the life of Warren Church at Fullerville, N. Y., by a half-witted young man by the name of Bert Ware. He is a fellow who does whatever somebody tells him to do and he has been for years the butt of ridicule not only at home, but in the village. About two weeks ago some one pretended to Ware that he was going to kill him and did fire a pistol in the air. Ware was scared half to death. It has rankled in his brain ever since. Ware lives with his mother in a little house adjoining the property of Warren Church and in order for Ware to reach the street he has to go over the property of Church. Sometime during the day Church fastened the gate and when Ware wanted to get out he broke the gate to pieces. He had his gun with him and when he saw Church he was at least fifty rods from him, but fired."

Surely instances like this should become fewer and fewer under the pressure of the better understanding and truer conception of duty which must speedily obtain not only among the profession but the laity. That this in turn will also make it incumbent on the state better to provide for this class of degenerates, seems equally probable. In the future, such miscarriage of intelligent justice will be pronounced as inhuman as it is stupid.

That there is encouragement, however, to be a pedagogical as well as medical practitioner is shown in a case which I briefly outlined before the Hudson River Schoolmaster's Club at its meeting in Albany a year ago. Here was a boy who could see, hear and talk almost everything and very intelligently for his age, but who could not possibly, un-

der any sort of home and school effort, learn to read beyond his a-b abs. In time, as he grew older, he became the despair of the home, the butt of all the other children, and the problem dark of everybody concerned. Yet under the patient care of an older sister whom I was permitted, as well as I knew how, to instruct from time to time, this boy within a year or two got where he did learn to read, did straighten up from all his shiftless habits, and did gain for himself a very respectable and growing degree of book intelligence and personal discipline of the more useful sort, as well. There was much talk of sending him to an institution; fortunately he was saved from this stigma, if not worse, and I am glad to see that Travis, in his new book, *The Young Malefactor*, supports me in my long contention that so far as practicable every defective child should be saved this stigma, both for his own sake and for the better safety of the society which he is to serve in the future. In a summary of this new work I read: "The development of the institution has shown that education and reform are spoiled by institutionalism and branding, so that only the abnormal or deeply involved delinquent should be handled by it. The most successful methods are those where a strong personality is exerted directly on the offender in a natural home or a foster home—that is, as good substitute as possible for the so-called non- or semi-functionary home." Surely it may be an increasing glory of any medical man that he has taken pains to qualify himself properly to invade the home, as it were, and boldly to carry thence his ideas of better things for the feeble-or perverted-minded, and also the force of his disciplined and instructed personality.

Often, again, we must remember that, as Witmer says (*Psychological clinic for 1907*):

Mental retardation must not be considered as the equivalent of mental defect. In many cases, doubtless, retardation rests upon a defect of the brain or some other physical defect, the result of heredity, accident or disease, but in some cases the retardation is purely functional and may be a consequence of disuse through neglect. A normal child of six years is possessed of a group of mental and moral qualities characteristic of his age and sex. These qualities change into others through the acquisition of new or the loss of old qualities and through modification due to growth. The normal child of nine years of age differs from the normal child of six. If a child who was entirely normal at the age of six remains in the possession of the same mental and moral qualities when he has reached the age of nine, he represents

the condition of retardation. This retardation may involve one or more, possibly the entire group of qualities. A single quality may have a potent influence upon the course of intellectual development. Thus, the central mental process determining the course of intellectual evolution is attention. The development of concentrated attention results partly from the genetic process alone—that is, it is a growth from within—and partly from the environment in the form of school training and home discipline. Through neglect of proper training, the young man of twenty-one may find his powers of attention inadequate for the proper fulfillment of the requirements of a college course and more appropriate to a child of eight or ten. He is suffering from a partial arrest of development, the result of neglect. An arrest in the development of attention will carry with it an arrested development of the intellectual processes.

This being the case, it follows convincingly that no child with incipient feeble-mindedness should ever be allowed to take his chances with the “idiotic” crowd, without having first received the very special consideration and attention which intelligent justice requires. Just now there seems to be more of a movement in favor of segregating these cases in distinct schools, etc., than otherwise. Whether necessary or not, remains to be seen; but if so, then let us hope that the scheme will be considered only partially advisable and tentative, at best.

When I was a child there was a physically overgrown and mentally undergrown fellow who never could get beyond the simplest requirements of the common school curriculum, and consequently got for himself the elucidative sobriquet, “Shine”. But he had to work regularly on the home farm, nevertheless, and usually went with the neighborhood crowd of boys and girls everywhere. Duly he married, became the father of one child who is still living, a commonplace farm drudge, but as respectable as others of this kind. He himself is still living, too, having always been about a two-thirds serviceable man of rough work in the country and able to earn his own subsistence, practically all the time. He had vicious tendencies when young, but the regular farm work seemed to subdue them and I believe there is no charge against him whatever, to this day. It seems to me that these simple, everyday necessities proved in this case not only to have been a better training for him than the ordinary specialist or institution of that time would have provided, but strongly suggestive of what can be done similarly in many cases.

Finally, the general practitioner can take courage from the fact

that everywhere others are springing up to help him in this work of properly caring for the feeble-minded of every class. Especially can one be interested not only in the noteworthy developments of the specialty in the profession itself, but in such undertaking as that of the Psychological Clinic of Philadelphia where Witmer and his associates are reporting just the kind of work that all physicians should keep in touch with. As a specimen of what is there done and what can there be learned, I quote from its pages a summary of an article, entitled, *Fifteen Months of Treatment of a Backward Child*, and trust it will encourage others to seek out the methods used. The article says:

The repulsive countenance had been transformed into almost a thing of beauty; curly hair covered a naturally well-shaped head; the mouth was closed; the cheek, firm and healthful in appearance; the bridge of the nose was beginning to be noticeable. The dull lifelessness of the eyes and general vacancy of expression alone betrayed the mental deficiency. The irritable infant lying helpless in its mother's arms was now an active child revealing the potentialities of a progressive mental existence. The child, absorbed in its own bodily distress and seeking only self-gratification, had become a favorite of the household through her affectionate and sympathetic disposition. The infant who could barely crawl, now walked upstairs with alternate steps and with both arms heavily laden. The speechless child, now used connected words and could say, "More tea," "More potatoes," "I love my baby," "I love mamma," all distinctly articulated. The child who possessed so little intelligence that her mother's highest hope had been to see her able to point to what she wanted, could now select with discrimination the clothing she wished to wear and could execute with precision the details of simple commands verbally given. In the last days she was worrying a visitor for a cornet he had brought with him. The mother said to the child: "Perhaps if you will give the doctor your doll he will let you have the cornet," a verbal suggestion which the child instantly carried out in action. Originally lacking in persistence, her capacity for continued effort was shown when she placed, at the first attempt, one hundred of the smallest pegs used in kindergarten work into the holes of the pegging board. The sport of every passing whim and emotion had now developed a will power capable of resisting its own impulses and of yielding obedience, and had begun to manifest the foreshadowings of a moral sense and a self-respecting personality.

If work like this does seem slow and results not perfect; if it appears somewhat extra-professional; if the general practitioner already has too much to do; even if the whole subject of the understanding

and management of feeble-mindedness seems more or less quixotic or Utopian, I yet am bold enough to affirm that everyone of these unfortunates is by right entitled to all that can timely be done for him, and by those most comprehensively qualified for the work. A little deeper interest, a little broader preparation, a little truer devotion would undoubtedly soon make it an easy matter for us all, general practitioner or specialist, to do much more than now, and much more promptly and efficiently than now, that from which none of us can very usually or justly claim excuse.



NATURE'S CORRECTIVE PRINCIPLE IN SOCIAL
EVOLUTION.

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In presenting this thesis, the author realizes that he will be exposed to the criticism of those whose philanthropic natures find expression in the formation of societies and institutions for the excavation of the "submerged tenth." To these so called philanthropists there is but one law—the law of love. They profess to believe that all men are equally worthy of survival; and that those who, unassisted, are unable to survive should be made special objects of fostering care, even though they be attached as a drag to the car of human progress. The author holds that it is not a pessimistic view of life to wish to see a man get out of the world, who is not fit for it, and who has little or no chance of ever becoming so. To one who anticipates the general upward trend of human life, it is evident that the occasional removal by society of an individual, or even of many individuals, may be necessary to the welfare of the social group.

Much has been said and written concerning the hypothesis of natural selection; how the keenest, the fleetest, the most cunning, choosing others of their kind and quality, beget offspring that are yet more keen, more fleet, more cunning. This hypothesis has, by common consent been applied to the human race, and men, seeing the inevitable fate awaiting those individuals that are not chosen, are busy with their philanthropies and their societies and organizations for social betterment, trying to prepare the inferior members of the human race, those who stand far below the average of their fellows in morals, in intelligence, and in physical endurance, for entrance into the class where they may acquire or develop powers which may enable them to survive in the struggle for existence. There is another class, a class that seems to be below the reach of any social uplift, a class of individuals whose lack of endurance—the result of crime, dissipation, or inheritance—entirely unfits them for the race with the strong. What becomes of the individuals of this

class? Are they permitted to remain a drag upon humanity's progress? To maintain an idle, inefficient, and vicious class would sap the strength of the strong. Does nature fold her hands and permit this economic waste to go on? But far more important than a consideration of any economic question is the question of whether or not nature permits the continued existence of this class, being, as such a class must always be, a standing menace to the race, making possible the transmission, through the individuals of this class, to unborn generations, habits of viciousness, immorality, and incompetence.

It seems evident to the observing mind that the old dictum, "All men are born and created free and equal," admits only of an academic interpretation, and it is one of the purposes comprehended within the limits of this thesis, to prove that, considering the widely differing degrees of ability possessed by different individuals to apply themselves to any remunerative work, any mental employment or any moral development, we may say, without much fear or hesitation, that there is very little freedom in the world and nothing like equality in the gifts which nature bestows; that every child is born with mental, physical, moral, and temperamental qualities for which he is not wholly responsible, and which fix, most rigorously, the range of his possible achievement.

The nature and the quality and the length of a human life appear to depend very largely upon heredity. So plainly may heredity be proven to be a determining factor in the general estimation of a child's possibilities, that the direct effects of pre-natal influences are looked for and expected with the confidence of a settled and incontrovertible law; honesty and virtue and health are expected in the offspring of honest and virtuous and healthy parents; dishonesty, lack of virtue, and disease are likewise expected in the offspring of dishonest and dissolute parents. This expectation is so generally fulfilled that when the contrary condition pertains it is cause for much surprise. But this is not all; there is yet a higher law, the resultant of an external force which is forever interfering with this known and acknowledged law of heredity, and which regulates production and determines multiplication. It is the power which nature gives to all organisms by which those organisms become capable of ejecting waste and harmful material, applied and made effective in the social composition.

Abnormal individuals are not only valueless but are generally harmful to society; for, beside being nonproducers, they absorb the energies and the productive powers of others. Hence, in the development of a people it becomes necessary that the lifetime of these abnormal individuals should be shortened. But, though death may be shown to be a beneficial occurrence, yet we do not attempt to account for it on grounds of utility. There is a law higher than this and more general; it is the law of the "survival of the fittest." But while in the field of biology the law of the survival of the fittest appears to be broad enough to include all organic evolution, yet in the consideration of the question of social evolution where the psychic phenomenon of conscious choice makes itself felt as an ever varying factor, indeed a factor of such varying value as to render it impossible to lay down this law as universally binding, we may consider independently and without unjustified encroachment upon the field already occupied by biology, this particular phase of the law of the survival of the fittest which we shall call the rejection of the unfit.

That crime breeds disease and that disease brings death is one of the most hopeful signs for human development. It is the disease that proves fatal that becomes the greatest agency in the maintenance and the progression of the race. To the elimination of the weak and the unfit, much of the physical and moral strength of the race is due. To increase the speed and the efficiency of a train of cars it is as necessary to let off the brakes as to open the throttle. To make satisfactory social progress it is no less necessary to relieve society of its drag than it is to give it added impetus. If this is not possible then it is of no use to apply added power. How is this drag removed? How is society relieved from its burden of crimes and entailed disease which like a dead weight would retard and even prevent its progress and development? This is the problem stated in terms of social dynamics.

It may be shown that as human society develops, nature assists in that development; that the ability to survive comes as much by subtraction as by addition; that progress is made by elimination quite as much as by preservation; that human development comes by the rejection of the weak and the unfit, and thus through the survival only of the strong, in spite of human processes and philanthropies which tend to the equalization of human powers and the reduction of mental

and physical grades to a common level. It may be shown that a correct answer to the question as to how and by what process the human race may be empowered to advance would be by the utility of death—the death of the unfit.

SYNCHRONISM OF CRIME AND DISEASE

Is there a close analogy between an abnormal and defective mind and an abnormal and defective body? Does the one necessarily induce the other? If so, then nature will work out this problem of itself and according to her own methods. To answer these questions we must ascertain how physical maladies originate and how they are more general and more destructive in the cases of degenerate, than in the cases of persons possessing a normal morality. The physician whose patients are those afflicted with nervous and mental maladies, discovers two phases of degeneration and neurasthenia. These two conditions or phases of disease frequently occur in the same patient. It is often easier and more effective to treat these two phases of abnormality in the patient as one condition expressing itself in two ways, than to treat each separately.

Morel¹ gives us his definition of degeneracy which, it will be observed, is also a partial definition of neurasthenia. "The best idea we can form of degeneracy is to classify it as a morbid deviation from a normal type. This deviation, though in the beginning it is trifling, possesses transmissible qualities of such a nature that the one bearing them gradually becomes incapable of fulfilling the natural functions of life."

Degeneracy expresses itself in the human race in certain marked physical characteristics which are denominated "stigmata." These stigmata consist of malformations indicating arrested or abnormal development of certain organs of the human body.

Lombroso² gives us a partial list of the anatomical abnormalities of degeneracy such as irregularities of the teeth in form and position; hare-lips; enormous ears; squint eyes; the unequal development of the two sides of the face; and while all these physical irregularities of the degenerate are of interest to us as indicating a necessary connection between the abnormal mind and the abnormal body, yet it is to be

¹ *Traite des degenerescences physiques, intellectuelles et Morales de l'espece humaine et des causes qui produisent ces varietes malades*, p. 5.

² *L'uomo delinquente in rapporto all'Anthropologia, Giurisprudenza e alle Discipline carcerarie*, 3rd edition, p. 147.

especially noticed that Lombroso, in the work from which we just quoted (p. 147) as does also Dr. Ch. Fere¹ calls particular attention to the significant fact that one of the anatomical stigmata most frequent in degenerates is an unequal development of the two sides of the cranium. This fact, above all others, would indicate the unbalanced mental condition and the anatomical abnormalities of the individual as synchronistic and this synchronism to be the necessary consequent of the practice of crime either in the individual or his forbears since both are the acknowledged result of the same, or similar causes.

Science has also discovered that with these anatomical stigmata there is a concurrence of others of a mental order no less manifest and not less related to the practice of crime.² The anatomical peculiarities of the degenerate find their counterpart in the mental peculiarities of the same individual. The asymmetry of the cranium is matched by the abnormal mental faculties; there is an absence of a sense of morality and a lack of a proper appreciation of the rights or the persons of other individuals. Another expression of degeneracy of mind is a marked slowing of vital activities together with a lessened power to resist noxious influences. There is an increasing tendency of the whole organism toward physical and psychical infirmity. G. Nacé is authority for the statement³ that degeneration may readily pass over into actual disease; in fact, disease and weakness appear with remarkable frequency in the persons whom we call degenerates. Under similar circumstances one man will contract a fatal disease while another will not. This susceptibility to disease is ascribed to an absence of resisting powers which absence indicates an imperfect physical organism. Such is the physical condition of a great number of degenerates—abnormal in body as in mind—they become easy victims of disease and death. Dr. Bruce Thompson, whose eighteen years of experience as surgeon of the general prison of Scotland would entitle any statement that he might make upon the co-existence of tendencies to crime and to disease in the same individual to receive much consideration, has declared⁴ that he had never witnessed in any post-mortem which he had attended upon the body of any non-criminal,

1 *La Famille nevropathique*, p. 176 et seq.

2 Compare Nordau, *Degeneration*, p. 17.

3 Quoted in *American Journal of Sociology*, Vol. V, No. 1, p. 128.

4 *Hereditary Nature of Crime*, in *Journal of Mental Science*, Vol. XV, p. 487.

such an accumulation of morbid appearances as he witnessed upon the post-mortem examinations of the prisoners that died in the institution of which he was surgeon. Scarcely one of them, as he goes on to tell us, could be said to have died of one malady for almost every organ of the body he found to be more or less diseased. He declared that their physical frames seemed about on a par with their moral natures. Out of fifty autopsies on the bodies of degenerates, Flesch¹ found the liver normal in six cases only. McKim² declares that as a rule criminals are physically defective. Dugdale³ puts himself on record as a believer in the close relation between the abnormal, or diseased mind and the abnormal, or diseased body, when he says: "It has been said that whatever is physiologically right is morally right; and we have a confirmation of that saying by its acknowledged converse that whatever is physiologically unsound is morally rotten." Lincoln⁴ declares that crime, insanity, idiocy, epilepsy, and hysteria are close kindred. The relation between crime and disease is by no means a recent discovery. It has been a recognized fact for centuries. Herodotus, born 484, B. C., tells of the Persian king Cambyses who was afflicted with epilepsy and who was outrageously cruel as was shown by his murder of his own brother and wife. Associating the crime with the disease, Herodotus declared⁵ it was not surprising that with so diseased a body his mind should not be sound.

In the preceding discussion one principle has been involved. It is the principle that immoral and defective mental phenomena and abnormal and diseased physical organisms are generally either synchronous, or else bear to each other in the same organism the relation of cause and effect. It is not necessary that we should undertake to ascertain which is the cause and which the effect; it is sufficient for our purpose if we have proved that the manifestation of a phenomenon in one field involves and warrants us to look for some expression of it in the other. If we have proved this parallelism then we are able to classify, under the same heads, the phenomena of the two fields. An

¹ See McDonald, *Criminology*, p. 68.

² *Heredity and Human Progress*, p. 159.

³ *The Jukes*, p. 87.

⁴ *Sanity of Mind*, p. 32.

⁵ Herodotus Bk. III, p. 33: Teubner, Leipsic, 1894.

abnormal moral condition must correspond to, and be in a sense an expression of an abnormal physical condition. So, too, for each physical abnormality there is likely to be some corresponding mental condition. Morel¹ admits that causes influencing health produce deviations from the normal characteristics to the extent that they become types capable of indefinite transmission until sterility and extinction follow. Criminals form a distinct variety of the human family. A degenerate character expresses itself in a low type of physique. A comparison of the juvenile criminals in houses of correction and reformatories, with the children of the public schools, shows the comparatively low physical condition of the former.² They are sickly, scrofulous, and with malformation of the cranium; they are sluggish, stupid, and defective in vital energy. They are usually repulsive in appearance and are afflicted with unhealthy bodies. They are especially subject to tubercular diseases and to derangement of the nervous system.

In a vast majority of the cases they are the victims of an inherited tendency to commit crime as well as an inherited tendency to disease, which would prove our hypothesis of a close relation between crime and bodily defect.

That children resemble their parents is a matter of common observation. It is also a matter of common observation that while the child may favor either parent, yet it is most likely that the characteristics of both parents are combined in the offspring. But while heredity may include the family resemblances in color of skin, eyes, hair, in stature and physique, it also extends far beyond these physical likenesses. It includes the size and shape of the head, the condition of the nerves and digestive organs, the richness or poverty of the blood, as also the diseases which we call constitutional. In this category longevity and shortness of life must be included; medical science, to-day, justifies the witty aphorism of Dr. Holmes that the proper time to begin the treatment of some diseases is a hundred years before birth. It was Heine who wisely remarked that a man ought to be very careful in the selection of his parents.

With these physical peculiarities and defects, heredity is deeply

¹ *Traite des Degenerescences Physiques*, p. 3.

² E. S. Talbot, *Degeneracy, Its Causes, Signs and Results*, p. 18.

concerned. This similarity seldom ends with physical resemblance, since modern science has established, without a doubt, the transmission by heredity of mental and moral qualities. This phase of heredity is difficult to prove. This hypothesis has encountered most hostile prejudice and its battles are by no means all won. The line of demarkation between physical and moral characteristics is one exceedingly difficult to draw; and although science has not yet succeeded in assigning mental phenomena to physical causes, yet it has done much in this direction and our knowledge is widening with our experience. One might prove examples of an hereditary tendency to crime, and to attendant physical weakness, from the pages of history. The vices, the avarice, the insolence, the physical weakness of royal families, descending from father to son through many generations, is a fact of history. The same might be said of many conspicuous families.

HEREDITY AND ENVIRONMENT

We are not altogether wise in our generation, for we go on multiplying agencies and institutions for social betterment seemingly attributing the results of vicious character in individuals solely to the causes of environment, apparently working on the theory that the only agency needed for social uplift of the degenerate individual is a change of surroundings and associations. And while these agencies in the formation of character are powerful, yet we must not lose sight of the fact that there is an influence deeper than environment, and that the kind of child or man which is to meet and to be moulded by environment, has been inexorably determined by the character of his forbears.

The writer during a residence in New York City took occasion to study the inmates of police courts and the Tombs. Of the 200 prisoners that came directly under his observation, seventy per cent. of them were found to be descended from dissolute or criminal parents. Their appearance confirmed their statements of an inherited mental, moral, and physical undevelopment. Their bodies, their mental capacity, and their moral turpitude bore evidence of an inheritance from a degenerate ancestor or ancestors; and that their unsocial and vicious natures as well as their pinched brains and diseased bodies were defects for which they could not be held altogether responsible.

A consideration of the element of heredity must of necessity include the vice of intemperance. While intemperance itself may not be transmissible, yet it is impossible not to see that the physical condition that makes intemperance easy, and, if circumstances favor almost inevitable, is transmitted from parent to offspring. And while there is an insistent tendency to transmit like habits and identical vices from parent to offspring, yet the vice of intemperance is likely to express itself in the impaired health, morals, and intelligence of the progeny of its votaries. The children of intemperate parents are likely to come into the world without having either the moral or physical strength to struggle against their temptations. They are victims of tyranny—the tyranny of weakened constitutions. So early was the law of hereditary intemperance understood and so fully were the baneful influences of the dissipation of parents upon unborn children appreciated, that the ancient Carthaginians promulgated a law forbidding all drinks but water on days of marital intercourse.¹

We are compelled to face the awful law that vice and crime, with all their attendant consequences of disease and incompetency, are hereditary; that every parent who disregards morality and temperance is helping to form the vicious characters and the impaired constitutions of his unfortunate children; that the excesses of one generation are likely to be the curses of the next generation; that streams of tendency, hot with passion and lust and lurid with disease, flow from generation to generation; and that every individual is, in a marked degree, a product of the past.

The degenerate is no rival for the healthy normal man, with his good judgment, his strong will, and his logical thought. The moral and physical weakling, degenerated by vice and weakened by disease, both inherited and acquired, is driven from the good things of the earth and consigned, with contemptuous pity, to the slums, the hospitals, the asylums and the prisons. Nature is aided in her task of eliminating the unfit by the men with clear heads, hearty stomachs and hard muscles. An age-long contest for food and honor has trained selected men against whom the degenerate can not compete. With arrested development, with great susceptibility to disease, with a sub-normal nervous system, millions of these degenerates perish in infancy, or at

¹ Gustafson, *The Foundation of Death*, p. 171: Heath and Co., Boston, 5th edition.

the first stress of life. The tendency of the unfit is toward extinction. The law of the rejection of the unfit is nature's protest against many of our philanthropies which are being misguided and misruled by the too generous impulses of human nature. The reaction from those old social distinctions which were once so fundamental and were the result of social gradations made by unnatural social forces, has carried us quite as far in another direction. Elated by our success in overthrowing those artificial and unnatural grades we have disregarded the fundamental and natural grades. The hypothesis that individuals are virtually equal or ever can become equal in terms of social value, leads to the most monumental follies. It has created an hysterical philanthropy that would rob the honest citizen of his rights of protection and security to bestow upon those who are unworthy of freedom and are dangerous to the welfare of society, an unmerited paternalism that would prolong their days and augment their vitality and thus increase their possibilities for social detriment and expose society to dangers from which nature, if unopposed, would effect a permanent relief.

It is no true wisdom that would influence society to perpetuate and to vitalize forces that are detrimental to it. It is no true philanthropy that would foster and vitalize individuals whose very presence in a community is a standing menace to that community; neither is it charitable to the individual whom nature has marked as unworthy of survival to prolong his days and to increase the radius of his polluting influence.

A misguided philanthropy is persuading us to expend vast sums of money that have been earned by the capable and worthy in the care and perpetuation of those classes which neither our reason nor our judgment would pronounce to be fitted to survive. We are directing our philanthropies towards a perpetuation of the unfit and the multiplication of their numbers. We train a portion of the feeble-minded to become able to marry and to beget their kind, and permit them to do so. We open our asylum doors and release every year twenty thousand persons who have been committed for insanity and permit them to contract marriage. We maintain free dispensaries, conveniently located, where little or no effort is made to discriminate between those who need medical attention because of misfortune and those who desire it because of a weakened physical condition through degeneracy and

dissipation—all are treated alike and at the expense of industry and thrift. We take the inebriate out of the gutter where he belongs by his own choice, doctor him up until he is able to procreate his kind, and then send him back to his wife and family. We care for the pauper through the winter and allow him to run at large for the rest of the year. We employ an indiscriminate out-of-doors charity that keeps the lazy, shiftless, intemperate, and diseased husband and wife together that the class to which they have willingly assigned themselves may not become extinct. We hedge the degenerate around by all kinds of legal devices to preserve for him a freedom which is dangerous and harmful. The element of protection that enters into the conduct of the court when passing sentence upon the criminal degenerate effects a protection that is immediate only and not prospective since it does not primarily provide against the perpetuation of the criminal degenerate in the persons of a progeny with like inclinations. If a criminal degenerate is brought before the bar of justice in any civilized land, to-day, these considerations enter into and chiefly effect the sentence of the court: First, what sort of punishment and of how long duration will be commensurate with the crime; second, what should be the nature of the punishment that it may in some degree work a reclamation—seeking chiefly to prepare the criminal degenerate for as speedy a return to liberty as the nature of the crime and the dignity of the law will permit, everlooking the fact that with that liberty goes also the possibility of procreating children with like tendencies. Nor is this all, for a maudlin sentimentality often leads honest and healthy people to marry with these social and moral outcasts. Women often marry those whom they know to be moral lepers for the purpose, as they declare, of “reforming them.”

LEGAL RESTRICTIONS ON MARRIAGE

An examination of the laws of 1906 in reference to the causes for which marriage is prohibited, void, voidable, and criminal, shows that of the fifty-three states and territories, forty-five, representing a population of 66,554,359 (census 1900), or nearly eighty-seven per cent. of the entire population of the United States, have placed no restrictions on marriage for the cause of insanity or degeneracy in any of its forms; that in forty-two states and territories, representing a population of 62,

688,641, or over eighty-two per cent. of the entire population of the United States, a marriage is not legally void by reason of one or both parties being degenerate or insane; that in thirty states and territories, representing a population of 46,960,996, or sixty-four per cent. of the entire population, a marriage is not rendered legally voidable by reason of one or both parties being adjudged degenerate or insane; and that in forty-nine states and territories, representing a population of 69,338,922, or nearly ninety per cent. of the population, a marriage is not considered criminal even when it unites individuals one or both of whom are adjudged degenerate or insane.

It is plain that society's attitude toward the degenerate must be changed. An effort should be made towards a systematic education of the social mind and a systematic training of public sentiment until society shall fully comprehend the danger to which it is exposed through many of its present methods of dealing with the degenerate class. Having fully appreciated its danger, society would then surely turn towards the erection of suitable safeguards by which it would be enabled to protect itself. The voice of the people would demand the enactment of laws providing for permanent public or private custody of all degenerates. This would be followed by legal enactment making it mandatory to commit by indeterminate or life sentences, to institutions provided for the purpose, all degenerates coming within the cognizance of the legal authorities of communities. It seems evident that any community or nation might be vastly improved if, instead of bending its energies to defeat nature, it would direct those energies toward assisting nature in her positive working toward social evolution. The civilization of the twentieth century should face these problems of degeneracy with a definite and fixed purpose to aid nature in her efforts for their removal. Christian ethics teach us to regard these unfortunates as our wards. Social science teaches us to regard them as unfit and with no rational basis for a claim to the rights of liberty. What general course shall be adopted for their disposal? It is hardly necessary to discuss the attempts that have been made for the improvement of the degenerate farther than to state that an increasing experience is proving that the best planned and most scientifically conducted experiments have failed utterly to restore defectives to a normal condition. To attempt to train them to a point where they may be self-support-

ing and then to release them from institutions of detention is to permit them to propagate and perpetuate their kind, and thus to multiply the evils of our social structure. A growing sentiment among students of the problems of degeneracy is declaring itself in a demand for the asexualization of the members of the degenerate class. This is certainly a radical measure but serves to show the growing appreciation of the ghastly evils which the misinterpretation of the laws of ethics has assisted to grow up in our midst. (The asexualization of degenerates is provided for by law in the state of Indiana.)

With regard to the essentially unimprovable character of the degenerate, the community at large is but poorly instructed. Public sentiment is continually declaring itself for a better training of the degenerate, and for an improved environment in institutions provided and maintained by the state. All this is wise, charitable, and just. But public sentiment must be taught more seriously to comprehend the awful consequences of permitting a consummation of the marriage contract among the members of this submerged class. It is plainly the duty of society, if it would protect itself, to assert its right to prevent the degenerate from reproducing himself. Society should understand that the law of heredity is immutable in its operation; that the character of the child that is begotten of degenerate parents is fixed by the character of its forbears. It is plain that society's remedy for degeneracy is society's control of the source of degeneracy. There are two ways by which this control could be made effective and at the same time kept entirely within the strict interpretations of the laws of Christian ethics. First, it is possible to establish a better and a broader system of instruction among the younger generations concerning the hereditary transmission of traits and peculiarities. The youth of this and succeeding generations might wisely be taught that marriage entered into by individuals who are imbecile or epileptic, or the weak consumers of nervines and stimulants or opium or intoxicants, or by individuals whose lives show erratic tendencies and peculiarities, become a standing menace to the social interests of future generations. It is the first duty of the state to teach the youth of the public schools that a marriage between those who are unfit is not to secure happiness but untold misery for themselves and for those to whom in after years they may bear the relation of parents. The young man should be

brought to understand that the silly, neurasthenic, untruthful girl will make both an irresponsible wife and will bear him a progeny of like-minded children. The young woman should be taught that there is but little hope that her lawless, thriftless, drinking lover will reform himself after marriage, because these habits, which possibly she may admire, are but the outward expressions of innate vice.

But what is the plain duty of the state towards the degenerate or the insane person who, surrendered by the parents or guardians or committed by a sentence of the court, comes under the state's custodial care? In the treatment of these cases there is one fact that should be considered seriously by all legislators, social workers, and moral reformers and it is this: that any treatment of the degenerate that has for its primary object the reconciliation of the degenerate to society and the consequent extending of the radius of freedom, is a course of action that if effected will, in almost every instance, insure the infusion of an element into the population that will not be conducive to social prosperity, honesty, safety, or intelligence. It is plain, therefore, that society should be protected from such harmful influence.

"An ounce of prevention is worth a pound of cure." A very large part of the wretchedness, of the effects of crime that we see about us is avertable by a wise and proper control of the source of degeneracy. With reference to the wide-spread army of degenerates, a fraction only of whom are regarded by the state as her wards, and which is annually adding to the general plethora of degeneracy, it is plain that public morals, the protection of future generations, and the prevention of the inheritance of degeneracy demand the permanent segregation of the entire list of degenerates, and especially would it be wise for the state to assume a guardianship over every degenerate or feeble-minded girl or woman of child-bearing age.

CONTROL OF THE SOURCES OF DEGENERACY

Legislation during the year of 1907 in the states of New York, Pennsylvania, and Indiana, in regard to the treatment of the criminal degenerate, indicates the beginning of an awakening of legislators to the necessity of the proper control of the sources of degeneracy. Section 688-a of the New York penal code makes it obligatory upon the presiding

judge to impose a life sentence upon the individual who has been four times convicted of felony. The penal code of Pennsylvania makes the third conviction sufficient for life imprisonment. An act of the Indiana legislature (H. C. Sharp, M. D., *The Sterilization of Degenerates*, Jeffersonville, Ind.) makes it obligatory upon the institutional physicians to perform such operation as will prevent procreation, upon such individuals coming under the care of the state institutions as shall be adjudged undesirable procreators.

The writer recently addressed to the secretary of the state boards of charities or kindred departments of all the states and territories of the United States, the following communication:

"Will you kindly inform me whether or not you consider advisable any legislation that may have for its object the prevention of the degenerate from becoming a parent; and if so, will you please state what method (whether permanent custodial care or asexualization) is in your judgment best for that end, taking into consideration the rights of all parties concerned—society, the degenerate, and the unborn child? Please state whether or not your commonwealth has taken any legislative action upon this matter." In reply to this request forty-one carefully prepared answers were received, thirty-four of which advise permanent custodial care, and seven, asexualization. What would be the effect upon the general morals of the people of this country if we were to remove the degenerate from society, deprive him of liberty and house him in some institution where he could do no harm? The effect could only be salutary. The degenerate contributes nothing that is beneficial to the public morality, while on the contrary he tends by direct act, by example and by bequeathment to lower the standard of public morals more nearly to his own level. As the segregation of the degenerate would effect an advance in the moral standards of society, so would it result in a distinct elevation of our code of ethics since we would then learn to interpret it in terms not of individual but of social freedom. Ethics are rightly applied only when the social interest is made paramount. To deal with the unfit by methods that may aid nature in her task of elimination is not opposed to the highest code of ethical law. Indeed, the best interpretation of Christian ethics already recognizes the absolute necessity of such action in some extreme cases of degeneracy. Commitment for long periods, indeterminate sentences, life

imprisonment in penal institutions, even death by hanging or electrocution are legal requirements which are clearly recognized as necessary measures for the protection of human society in all lands and among all people where Christian ethics form the very basis of all law.

It would be a distinct improvement of our present method of interpretation and application of ethical law if we were to direct our philanthropies towards the moral and physical uplift of society in such a way as would assist nature in her effort to remove the unfit, even though that assistance should compel a restriction of liberty for that class whose liberty can result only in a prolongation of the process of social evolution, and whose fostering by a misdirected charity and a misguided philanthropy, is removing the social millenium farther and farther into the future.

The segregation of the degenerate would also be a means of preventing a great economic waste. The degenerate, when permitted his liberty, becomes an enormously expensive individual. The greater part of the expense for the maintenance of our criminal courts, our city police, our prisons and penitentiaries are directly chargeable to the degenerate. And while we shall never be able to express in figures this enormous cost, yet we do know that in our country alone several hundred millions of dollar are annually diverted from the proceeds of economy, thrift and industry for the maintenance and control of this class. Mr. Eugene Smith, (Proceedings of National Prison Association, 1900, House document No. 491, 56th congress, 2d session) estimates that there are 250,000 persons in the United States who make their living, at least in some degree, by the practice of crime and begging. Their annual income, he estimates, averages about \$1,600 each, or \$400,000,000. Taxation caused by crime in the United States may be safely estimated at \$200,000,000 besides the expenses for steel safes, safe deposit vaults, burglar alarms, etc. It is safe to say that the criminal element alone costs the people of the United States \$600,000,000 annually; add to this the 3,000,000 abnormal dependents in the United States at an annual expense of \$200,000,000 (Compare Special Reports of the Census Office, 1900) and we have the conservative estimate of an annual cost to the nation for the maintenance of the degenerate element, of \$800,000,000. This is more than one-third of the total wage income of all the manufacturing establishments in the land (Com-

pare 12th census report, U. S., parts III and IV). Massachusetts pays for her charities and corrections the sum of \$23.59 annually for every family in the state. For Connecticut the expense is \$28.00 per family. For New York it is \$18.00 per family—\$4,000,000 greater than that of all the city schools of the state. In Pennsylvania the capital involved is more than \$500,000,000 or more than half the value of all the farming property of the state, one-third of all the manufacturing capital and fifteen times the value of the public property invested in the public schools. The degenerate is an expensive individual.

There is a further reason why the segregation of the degenerate would be the shutting off of a great economic waste. In most cases of sequestration the degenerate may be trained to become in part self-supporting. This is true even of the epileptics and the feeble-minded. Dr. T. C. Fitzsimmons, a member of the Pennsylvania State Commission for Epileptics and Feeble-minded, in a report says that while he fully realizes that few, if any, of the epileptics and feeble-minded can ever be cured, yet he believes that their condition may be greatly improved by a life confinement in institutions where they may be trained to become largely self-supporting.

An objection might very naturally be raised to the incurrence of an additional expense for the first cost of the necessary farm land and institutional buildings for the proper housing of the committed individuals of this class; but for the greater good and with the purpose of eventually, through industrial training of the inmates so that they may become self-supporting, removing the entire burden for maintenance which now lies so heavily upon society, this temporary tax-rate might well be endured.

With these facts before us, it is difficult to see why our moralists, our ethicists and our economists do not unite in insisting upon a plan of treatment of all the degenerates who come within the cognizance of our legal and medical authorities, that shall conserve the best and highest interests of society and at the same time co-operate with nature in a speedy, effective, and painless removal of that class of individuals which public morality, Christian ethics, economics, and nature as well, have marked as unfit to survive.

But the elimination of the unfit is not the work of a man, or of men; it is a world's work. It is not the work of a generation or an age; it is a work of time.

SPECIAL CLASSES IN THE NEW YORK CITY SCHOOLS.

BY MISS E. E. FARRELL, INSPECTOR OF UNGRADED CLASSES.

The special classes in the public schools of the city of New York had their beginning in Public School, 1, Manhattan, in 1899. It is interesting to know that this class, which was to demonstrate the need for further classification of children in public schools, was not the result of any theory. It grew out of conditions in a neighborhood which furnished many and serious problems in truancy and discipline. This first class was made up of the odds and ends of a large school. There were over-age children, so-called naughty children and the dull and stupid children. They were taken from any and every school grade. The ages ranged from eight to sixteen years. They were the children who could not get along in school. They were typical of a large number of children who even to-day are forced directly or indirectly out of school; they were the children who were interested in street life; many of them earned a good deal of money in one way or another. While some of them had been in trouble with the police, as a class, they could not be characterized as criminal. They had varied interests but the school, as they had found it, had little or nothing for them. If these boys were to be kept in school they had to be interested. They had to be shown that school could be more than mere study of books in which they had no interest. They had to be convinced that to attend school was a privilege not a punishment. This "about face" on the part of these boys was accomplished after many months.

They came to school and while they were doing interesting things, making toy wagons and wheelbarrows, they became a human laboratory in which many observed, studied. Some anthropometric measurements were taken, reaction to given stimuli was observed. This study showed that the physical condition of these children in nearly every case was as bad as it could be. All phases of bad nutrition and its effects were exemplified by those children. Sense defects were, of course, common; one hemiplegic, one epileptic, one so-called moral defective were included in this first class. The mental equipment was

not more promising. There were children who could read and those who could not; children who could count and those who could not. One would hardly believe that children could attend school for two, three, four or more years and still be so beautifully ignorant of most that had been done there. The mental habits were of the worst kind—little power of attention to abstract notions, will-power of a wishy-washy character or else so obstructed that action was frequently paralyzed. These and similar studies were carried out to the end that the separation of the different types of children was agreed upon. The over-age children, those who because of illness, frequent change of school or ignorance of the English language are now put in classes where the emphasis is on the subject or studies in which the child is weak; the discipline case is now cared for in day truant classes, while the child who is so defective as not to be able to profit by attendance upon the regular grades is now cared for in special, ungraded classes where the work is adapted to his needs and where the teacher, because of the small class, can give personal instruction and help. When school opens in September we shall have sixty of these classes in which something over a thousand children will be under instruction. As a rule, these classes are established in some central school to which children from neighboring schools are transferred. The question is often asked, How are the children chosen for these ungraded classes? We believe we have put every safeguard around the child who is not defective. Every proposed case is observed and checked up and examined before admitted to class. The initial action in the matter of getting children in ungraded classes is taken by the school principal. In the course of the day's work he comes to know the child who needs disciplining; the child who is not promoted with his class, and the truant child. School principals are advised by the City Superintendent of Schools to have children who fall into any one of these classes examined by the Board of Health physician with a view to the discovery of the physical basis of the seeming backwardness or delinquency. In this way visual and aural defects, obstructions in the respiratory track, malnutrition and similar conditions are discovered. Should this examination by the Board of Health physician reveal conditions that are remediable, the school nurse and the class teacher co-operate in presenting the case to the parent with a view to having the child put



TYPES OF UNGRADED PUPILS

under treatment. While this work is being done the principal requires the class teacher to make detailed observations on the child. These observations are recorded on a regular blank which the teacher is given. It has been found that by requiring careful observation on the part of the teacher many children have their seeming mental defect explained. It could easily happen that a child appeared defective when he was only tired out because of too much outside work or because of insufficient sleep or because of irregular attendance at school due to the vagrant habits of his parents. These observations require the teacher to know more about the child than she can possibly know from schoolroom acquaintance only. She must know about the economic condition of the family; his home, the work he is required to do; his school history; attendance at the kindergarten; how many terms he has spent in each grade; the regularity of his school attendance; the cause of any irregularity; the quality and character of his mental power; his special tastes, his peculiarities, his habits, his nationality and that of his father and of his mother. Many of the records made by the teachers do not seem to the more experienced principal to warrant an examination. The teacher is told to observe the child for another term or the child is given to another teacher. If these observations seem to the principal to warrant the transfer of the child to an ungraded class, he files the record with the inspector of ungraded classes and he is advised of the date on which the child will be examined. It is our plan to hold an examination in each school district once in six months. A central school is again chosen and to this the children to be examined are brought by their parents.

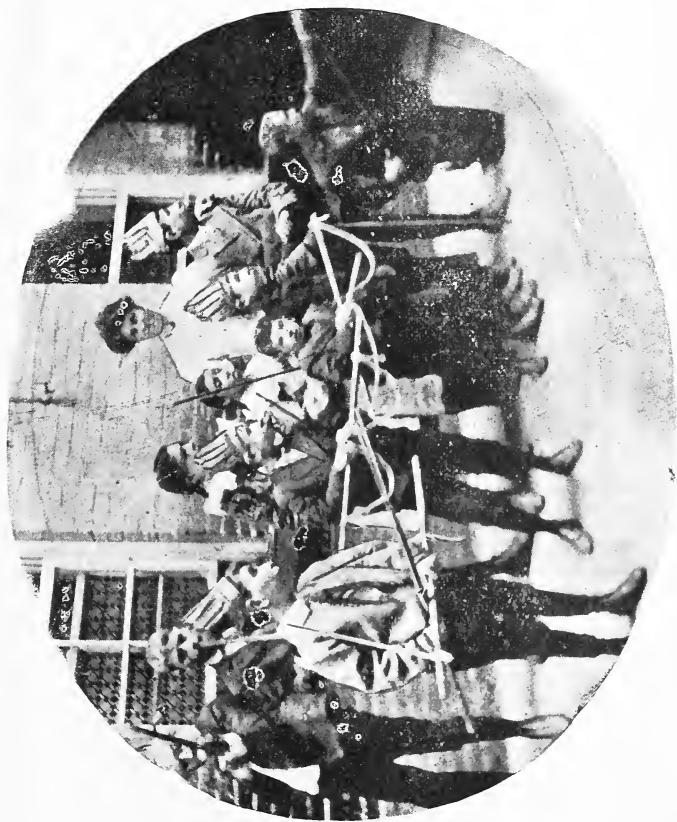
This examination is based on the observations submitted by the school principal and it is made by the inspector of ungraded classes and a doctor of medicine who is a specialist in nervous diseases. The doctor looks for things which indicate nervous or mental disorder. The so-called stigmata of degeneration are noted not as ends in themselves but as they indicate or confirm other conditions. The examination blank used groups these observations under the headings: anatomical, physiological and psychical. The doctor looks also for evidence of disease and from the parent gets information regarding the child's inheritance, and the periods of his development with the attendant diseases. At what age did he walk, talk, etc.? The inspector of ungraded classes

looks for some definite facts about the child's mental capacity in general and about some mental powers in particular. For example, the child's behavior under the new conditions of the examination, his reactions on receiving new impressions, his receptivity, his quickness, his power of apprehension; the symmetry, balance and proportion which characterize his mental life. His powers of memory, imagination, attention and volition are determined.

With the examination records made, the child, if a proper subject, is put in an ungraded class. There are also some children who are sent back to the regular grades and suggestions made regarding their physical welfare, food, etc. Some are rejected as being institution cases.

The ungraded class is always part and parcel of the regular school. It is not in a separate building. I need not justify this I am sure. By having the class a part of a regular school we avoid the stigma that might attach to any child attending it; we get a relation between the ungraded class children and others which is most desirable. As you know, these children frequently excel in some of the manual arts. An exhibition of this kind of work for the benefit of all the grades brings to the ungraded class child a recognition which up to this time he has not received. It also gives encouragement to the parent. At an exhibition of work held recently in a public school the parents were surprised at the work done in chair-caning, carpentry and basketry. Many parents asked when their child would get in that class so as to learn something useful.

The work which we are doing in these classes does not differ essentially from that done in other grades of the school. We take the child where we find him. If he can read in a third reader all well and good; if he can't read at all why it is just the same. A twelve year old boy who seems unable to get hold of number work has this last half year gone to a sixth year class for history. He gets a great deal of information out of this and his self-respect has increased marvelously. We offer much more work in manual and physical training than is given in the regular grades. We emphasize this motor training. Woodwork, with the large tools as opposed to the knife work, gives perhaps the greatest opportunity. The objects made have a real interest for the child since he is allowed to take them home. Towel-



CO-ORDINATION—PLAYING INDIAN



rollers, knife-boxes, bread-boards, wheelbarrows, stools, clock-brackets and a dozen other things were made this past year. Clay-modeling, bent ironwork, paper-cutting, gardening, basketry and chair-caning are a few of the occupations followed. All the work in this line looks to industrial efficiency. In one school the ungraded class children recaned all the chairs needing it; in another school all the maps were mended by the children; in this same school a boy who learned to make book-racks found a market for them at fifty cents apiece. He furnished the lumber and made them during his manual training time in school and after school hours. It is our intention to introduce those simple forms of industrial work that the children may follow as a means of earning a living.

In the physical training, we make use of all games and sports. We make a point of the dance. Folk-dances and the two-step are taken up in every class and in one or two classes the children dance the Lanciers and the Virginia Reel with precision and grace. We make a good deal of corrective gymnastics. For purposes of added interest we use dumb-bells, Indian clubs and wands. In connection with the physical training come the baths. In schools having an equipment, the ungraded class children are given two shower baths a week but special cases are bathed as often as necessary to relieve irritation and equalize the circulation.

The school day is five hours in length. If we were sure the children would be better off with a shorter day it would be arranged for. But most of our children are more quiet and composed in school than they are out of it. A shorter school day means a longer street day for tenement-house children. By judicious arrangement of time and a hygienic sequence in studies and occupations there is little danger of over-pressure.

We have the children, we have the money, we have the active support of the greatest public school man in this country, but we have not teachers enough to fill the great need of the schools. We have a provision in the by-laws of the Board of Education which allows three months' leave of absence, with full pay for purposes of study to teachers who are approved for this work. This time is to be spent in a school or institution for the training of mentally deficient children. Up to the present there is no place for such

teachers to study. You gentlemen have the key to this situation. Can you not take into your institution our best teachers with three years' experience in teaching normal children? Can you not allow them to live with your children for a month or two? Will they not be able to take the newer ideas in pedagogy to your teachers? They need not interfere in any way with the regular working of your own schools and they will bring back to this new movement the inspiration which comes from your schools and from your work. We need to know the short steps in teaching which you institution people know all about. We need experience with all degrees of mental defect in order to better understand and minister to the children who must be trained now or miss it forever. Will you open your institutions to public school teachers interested in doing a work so closely related to your own?



DISCUSSIONS

THE PHYSIOLOGICAL SIGNIFICANCE OF THE FIRST LESSON

Dr. Hill: I do not know which you will call my standpoint, the theoretical or the practical, but I am sure you will agree with me when I say that I regard the paper as one of exceptional interest and importance. It is not only a theoretical paper in that it points to the ideals, but it is practical in that it shows the way to reach them in accomplishment. I read this paper carefully several days ago and asked myself what could be said which would add to its interest, and the conclusion reached was that the paper is so clear, its thought expressed in such fascinating manner that it is full of inspiration and really needs no discussion. It is suggestive to every one interested in the problems of sociology, for, as the Doctor has well said, that first lesson was a promise and a prophecy. Its application is not alone to the improvement of the feeble-minded, but to all of the social problems which interest society to-day. Summing up Dr. Smith's conclusions, we have it stated that the inert cell is developed by an impulse that comes from without itself, and we may be sure that all social progress will be due to impulses intelligently directed to the point at which progress is required. Apply that principle to the ordinary child in the school and it is seen that the intelligent teacher is the force which gives direction to and brings about desired development in the dull and stupid child.

In the institution it is the superintendent and his staff who, realizing that brains are to be developed, apply a stimulus in each case which will arouse and awaken the cells and cause their growth. This applies not only to institutions for the feeble-minded but as well to those which have to do with the reformation of the delinquent; a quickening impulse must be directed intelligently if the moral side of the delinquents is built up and they be recovered to society. In all of the work which lies before sociologists and workers for social betterment, we are to seek with all diligence until we discover the proper stimuli, and when these be found, be insistent upon their

application. Otherwise we are but as those who are beating the air, accomplishing very little, wasting time and opportunities without securing the progress which society expects. As I read long ago in the Scriptures, the first great, quickening impulse was that of the Creator acting upon chaotic void, and through the influence of that impulse awakening life and bringing into orderly system the mighty universe with all it contains. These minds which are in your hands to develop need what may be a creative impulse, if you will use that term, or rather they require an intelligent direction which will cause them to stir and expand and develop, until out of the vegetative creature with a mental chaos or void, you have brought out and quickened into activity what may develop into a useful man or woman. A certain man speaking the other day said: "Why should men and women devote themselves to such work? What is the good of all this effort? You are taking the time and the thought of intelligent men and women, you are separating them from social advantages where their powers could be used to great advantage, and associating them with the lowest forms of human life. What is the benefit?" That is a question which is asked every day, and the answer is that we are a family, and whatever affects one member effects every other member, and, therefore, no one whose work is put forth earnestly and conscientiously for the benefit of the weak, is wasting time because his work benefits himself and is for the betterment not only of the family but of the commonwealth and of the race as a whole, as well as for the particular benefit of the individuals upon whom he employs his powers. We have such social relations that the efforts which we put forth in behalf of any of the weak and the helpless must of necessity react upon ourselves, and even act upon others who are not directly associated with the weak and the helpless; hence, instead of our efforts being lost, they are multiplied in their effect when properly directed, and, while society as a whole is directly benefited, we increase our own power and are developed and made greater and more and more useful when, through sympathy and an intelligent appreciation of our responsibility to our fellows, we use the best powers God has given to us in behalf of the poor and the afflicted, the suffering and the helpless.

We should, therefore, regard it as a privilege and an inherited

responsibility if opportunity comes when we can apply an impulse from without intelligently, to the inert and dormant and thus bring into activity and control, minds which otherwise would remain practically useless. Those who are directly engaged in this work may well take pride in their occupation and believe their energies are not wasted even though they may be employed in an attempt to develop the drooling idiot who sits upon the floor unable to control his natural functions. To apply a creative power and bring into activity things that otherwise would be absolutely lost, is to follow in the footsteps of the Master who went about doing good, finding His highest mission in saving the outcasts, the sick, the poor, the unfortunate for whom society had no remedy. To proceed along the lines which science is marking out and to accomplish what so many years ago Dr. Wilbur saw dimly on the horizon, is the ideal of work and when working days are done those who thus spend their life can look back with satisfaction upon their efforts and look forward with assured trust to the welcome from Him Who will say, "Inasmuch as ye did it unto one of the least of these, ye did it unto Me."



ACCIDENTS IN INSTITUTIONS FOR FEEBLE-MINDED AND EPILEPTICS

Professor Johnstone: I would like to ask Dr. Hardt what method he has of keeping a record of the accidents and bruises, and whether he thinks he gets reasonably prompt and efficient reports of these things from attendants?

Dr. Hardt: The system we have of taking care of the records is this: The medical board meets every day, excepting Sunday, and the work is carried on the following day for that day. We have a stenographer present and she takes down the work in shorthand; the doctor brings in a report from his wards and play rooms and it is recorded in these notes taken by the stenographer and one copy of that report goes to the governor and one copy to the State Board of Charities. We report everything, even pin scratches. The attendants report to the physician. The purpose is this: Many times people have complained to the governor or to the State Board of Charities about a child being injured—that a black and blue spot was found when they visited the child. Now, all we have to do is to turn to our record and find that this child had met with an injury at such a time.

Dr. Fernald: I think this is a very important subject. If parents find that there is an official record of an injury, as a rule, they are satisfied. I do not believe the patients in a well managed institution can be free from many injuries. The only way you can prevent the patients from getting injured is to put them in bed and pack them in cotton wool. If they play foot ball, or base ball, or go coasting, or engage in any manly sports they are bound to get injured. If they work in the hayfield, or chop wood, they are bound to injure themselves. For many years we have adopted this rule: That the house-mother of each group in her morning report must record any injury received the previous twenty-four hours, even a very slight injury, giving the source of the injury and briefly describing it. If, a week later, the mother of the child comes and discovers a black and blue spot, I find that in ninety-nine cases out of a hundred she is perfectly satisfied if she is shown the report that so and so, while coasting, broke his clavicle, or whatever injury was received. I think it is very impressive the way

complaints disappear when they see the official record, and know that the superintendent and officials are familiar with the occurrence. There is another side of this matter. In England, in the insane hospitals, the Lunacy Commission requires a very elaborate report of all injuries. The result of that reporting has been, to my mind, to curtail very much the treatment and training of the insane and feeble-minded. The English commission visiting our institutions were amazed to see that we allowed idiots and imbeciles to have sharp tools. For instance, if in some institution in England a patient cuts himself with an ax, and it is reported, it is apt to result in an order prohibiting the use of an ax by all imbeciles in institutions. The next day, if a patient cuts himself with a chisel, that is removed. They are so hedged about that the free use of the grub hoe and the ax by patients would be entirely impossible in English institutions. It seems to me the absence of accidents implies the absence of exercise and training which we regard as fundamental and important. It seems to me we ought to avoid the possibility of falling into that error because I think there is rarely a day in our institution that there are not several minor injuries of no real significance. I do not think we want to put ourselves in a position where the value of our institutions is judged by the presence or absence of black and blue marks and the honorable scars of daily life.

Dr. Hardt: That is a point well made. The accident that caused the investigation at Lincoln was just such an accident. On the evening of the 23rd of December, 1907, one of our epileptics, a case of practically no mentality, fell during a seizure and in some way, we were not positive how, the attendant being away at the time, secured a burn on the side of his neck about four by five inches. No telegram was sent that night and no letter, and before 10 o'clock the following morning the father came to visit and brought with him some Christmas goodies. On his arrival he was told about the accident. Just because he had not received the notification, which he could not have received under the circumstances because he left his home before the accident occurred, it left the matter in a position where he thought we would not have notified him and would probably have covered it up. He assumed we would have done that and that he would never have known the boy had met with an accident if he had not come that very morning.

Dr. Carson: Within my experience two quite serious accidents have occurred at Syracuse; the first one was soon after I entered the service there, on a Sunday, and I might say in this connection that our troubles usually happen on Sundays when about half of our force are relieved from duty. A small boy was in a condition where he needed a bath. A woman attendant in charge took him to the bathroom and then left him for a moment with an inmate while she, the attendant, went up stairs to get a change of clothing. While the attendant was gone, this inmate put the boy in the bath tub and turned on the hot water with the result that he was very badly scalded on his legs and hips. The boy belonged to a family in New York who were paying quite liberally towards his support. We notified his parents at once and they came on to see him. They were very reasonable about it, said it might have happened in their own family, took a very sensible view of it; the boy recovered and no trouble followed. The next one occurred about a year ago. An epileptic girl in a spasm seized upon a hot steam pipe and before her hand could be removed it was very badly burned and she was also burned severely on the face. The girl happened to reside in Syracuse and also had a brother living there. I notified him at once; he came and seemed to be perfectly satisfied that it was unavoidable.

If the accidents are serious and the people are notified promptly and matters are explained to them fully, I think, as Dr. Fernald says, they are as a rule disposed to be quite reasonable. In connection with that accident in the bath tub it occurred to me that I would hereafter relieve myself in a measure of responsibility in such cases, and I had a printed notice framed and hung in every bath room about the institution (I think there is one hanging in each bathroom today) to the effect that attendants might secure the assistance of pupils in the bathing of others but must not for one moment permit them to supervise it.

Dr. Bernstein: We have a form of daily report in use here which is sent in from every ward. The charge attendant on each ward must fill out this report. We have not made a practice of notifying parents or friends of accidents but we have a record and can refer to it any time. Sometimes we notify parents or friends and sometimes we do not. I want to speak of a rather peculiar accident

we had at Rome—an especially funny one—funny for all concerned because it turned out all right. A year ago last March we had a carload of boys sent up from New York City. I think there were twenty boys and not over ten knew their own names. The attendant who started with them did not come with them here and the attendant who brought them here did not know them any better than we did, but we identified every one. After a little while a fellow who had red hair and blue eyes died. We notified the mother that her boy was dead and she came up here. She looked at the boy and says, "That is never my boy, my boy had black hair and black eyes." She wanted to look through the institution and we took her all through and she could not find her boy, and she said she would go back to New York and see about it. We got directions to ship the remains to New York, and we did. She went to see the authorities in New York and the Commissioner of Charities of Greater New York took the matter up, and, even though she claimed her boy had black hair and black eyes, they convinced her that this was her boy. They told her that living up here in the country his hair and eyes had bleached out—and she buried him.

Another matter I want to mention. We have the so-called "mixing valves" here for our spray baths, where the hot and cold water come together and mix and come through the spray. Sometimes the attendants, in their hurry, will turn the spray off and forget to turn off the other two valves. Almost invariably the hot water will rise and the cold water will drop and a little time after a patient going to the toilet to bathe walks out with buttocks or back scalded.

Another case the State Board of Charities were asked to investigate was the case of a little Renk boy who came from Syracuse. He died in a few days after he was brought here. This little fellow was put on our reception ward twenty-four hours and taken from there to our ward for little boys. He was there about two days; did not appear well; was not taking his food and was transferred to the hospital, where, in a couple of days, he died. The first night in the hospital he fell out of bed and bruised his face. There was a record of this bruise on the face but the Renk people felt very badly and thought the boy had been killed and brought on an investigation which amounted to very little except to consume valuable time

of manger, superintendent and other state officials and undermine discipline in the asylum through discrediting the truthfulness of the officials among the employes.

Dr. Rogers: The public does not realize the relation of the number of accidents in public institutions to the number of population in the general community. Some few years ago the superintendent of one of the western institutions for the insane took the trouble to collect statistics in the county in which the institution was located and he found the percentage of the same class of accidents was larger in the county than it was in the institution, for the same number of people. However, it is very important that the public have confidence in the institution, and it is also very important that the management of the institution prevent accidents, so far as possible, both in the interests of the children and in the keeping up of the morale of the institution. I think it is a splendid thing to keep a detailed report, as most all of the managements do, of accidents. We have for a number of years required a report to be made and, incidentally, the particular form that is used is one I saw at the Craig Colony, a little red printed blank, the red indicating danger. The blank contains a memorandum of the fact that an accident has occurred. It does not make any difference what it is. My doctors report anything that requires attention. He can get his information at first hand, or from the attendants. This blank goes immediately to the office. It does not make any difference what the time of day is this report is sent immediately to the superintendent's office with the initials of the physician affixed and if the accident is of any importance at all the parents are notified. I must say that in the last few years I think we have succeeded in establishing and maintaining wonderful confidence in regard to such things. The parents seem so pleased to think that even comparatively minor accidents (there are some too small for mention) are spoken of. Collaterally with these reports the attendants make their daily reports and they must note all accidents.

Dr. Hardt: (In answer to inquires of Dr. Stephen Smith) I do not know to what extent other states require reports made to state boards of charities, or governor. The plan began with us August 1st, 1907. When this came up in Illinois the superintendents did not feel inclined to report, thinking it would give the institution a bad standing,

and some of them fudged a little bit, let some of the things slide, did not put them all down; but when they began to see that Dr. so and so reports for last week fifteen or twenty accidents seemingly without being worried or scared, the next time they got a little braver and finally began to tell the truth. It takes a little clerical work once a week to get it complete. Of course, if there is a major accident, the governor and the board of charities are notified at once. I have a case in mind that was brought up by Dr. Bernstein when he spoke of transfers. I think there is great danger in carelessly transferring patients, especially where you have the cottage system and the hospital department is in a separate building. The case I have in mind happened in a western institution. A woman was temporarily transferred to the infirmary but it was not intended to have her stay there that night. The employes on the hospital ward thought the attendant from the other building was to come and get the patient later. The woman wandered out into some underbrush, a cold night came on, and she was frozen to death and neither the infirmary nor the cottage from which the woman came knew what had happened to her. They supposed she was at the other place. The woman was found a month afterwards about 150 or 200 feet from the infirmary in a badly decomposed condition. Consequently, I think when a transfer is made to the hospital it should be made just as complete at once as at any other time or at any other building.

Dr. Stephen Smith: There is a great advantage in this reporting. Our board receives inquiries very frequently of accidents and occurrences in institutions, that lead to an investigation of the details connected with them, and a record, such as the Doctor describes would be at once referred to. If we had a record of an accident that occurred at such a time it would allay popular apprehension in regard to the treatment in these institutions. No doubt the public are all the time a little suspicious that things are not carried on rightly in institutions, especially when it comes to personal assaults and injuries.

Mr. McCarthy: It is my misfortune not to be a regular member of this society, but I can say with confidence that my colleague, Dr. Smith, and myself, as members of the committee on idiots and feeble-minded of the State Board of Charities, are very much in sympathy with the suggestion made by Dr. Hardt. It seems to me that it will

not only protect inmates but will carry a further collateral good. Such reports must have an influence upon attendants when they know they will reach state authorities. The requirements will also dispel the feeling that prevails largely, without cause I think, that there is a lack of proper care and of proper sympathy and frequently a lack of humanity exercised by attendants towards inmates of all state institutions. It has occurred to me, Mr. Chairman, that if it is the sense of this conference that the requirement of prompt reports is a good one, and, as I have said before, it is within the belief and the feeling of my committee here that the system should be enforced, I should like to suggest that the chair appoint a committee, of which Dr. Hardt be made chairman, to present some formal resolution upon the matter which may be brought before this conference for ratification or amendment. In this way we will have a concrete expression of opinion which I should like very much to submit to the State Board of Charities for consideration.

Dr. Carson: I make the motion that a committee of three of this conference be appointed to consider this matter of reporting to official bodies having jurisdiction over the institution, all accidents, casualties, etc., and that they make a report of some form which they think is proper and append thereto a form such as is used in the state of Illinois, with suggestions regarding the modification of that form.

The motion was seconded by Dr. Rogers and unanimously carried. The chair appointed Dr. Hardt, Dr. Rogers and Dr. Carson as such committee.

Professor Johnstone: I would like to ask if any of the superintendents are using for the recording of accidents any form charts. I saw, sometime ago, a card giving the body, front and back, divided up into spaces. I would like to ask if they are successful, who fills them out, and if any one is using them? The difficulty is to get the little bruises that only the attendants see.

Dr. Carson: I would like to make one inquiry, also, and that is, what record is made of a great many bruises which occur, black and blue spots which are seen, especially on girls and women, which cannot be explained—even the girl or woman herself will not be able to tell how it was caused. I have seen black and blue spots on women, as large as my hand, and they were wholly unable to account for them.

Dr. Hardt: We have a form showing the different views—side views front and rear, and also certain extremities—and we indicate by an arrow the particular part of the anatomy affected and we draw on this picture about the comparative area of the accident or bruise. If the bruise is just a discoloration, or there is no break in the skin, or we do not know the cause of it, we state the cause unknown.

Professor Johnstone: In our state we had some little difficulty last year regarding the question of the abuse of a patient in one of the hospitals for the insane, resulting in the death of the patient, and now one of our largest has adopted the custom of having arrested any attendant who abuses or strikes or misuses any patient. It is a public arrest and a public trial. In our institution we call in the attendant when any question is raised, and the attendant offers testimony under oath as in the superintendent's office, with two or three present. It seems to work very well indeed, and I think we have gotten the truth where otherwise we might have missed it.

Dr. Rogers: I meant to have mentioned the custom we have followed a good many years in regard to severe accidents. In the first place, our physicians are required to inquire specifically in regard to the cause. We do not simply accept the statement that an accident has occurred. If the cause is not so evident the physician is required to examine into it particularly, and if there is still any doubt, or there has been any possible neglect or abuse, the attendant or employe is obliged to come to the office and give testimony for a stenographic report that is written out and becomes a permanent record. Of course, if the attendant is discharged, that matter is reported to the board at once. We have never allowed anything to pass for the last fifteen years that appeared to require special investigation and we keep the records. I do not want to wait until some investigation comes from headquarters.

Professor Johnstone: We have only been having this testimony under oath for the last few months. We used to have an examination but did not swear the people.

NATURE'S CORRECTIVE PRINCIPLE IN SOCIAL EVOLUTION

Dr. Bullard: There are, undoubtedly, certain classes of degenerates which should be cared for custodially. There are other persons whom some might call degenerates who do not need custodial care. I think we should distinguish our classes very carefully. We are liable to go much too far if we make general statements in regard to degenerates without defining very carefully what we mean by degenerates. That there is a tendency in criminals to certain forms of degeneracy no one will deny, but there are very many people who have these same forms of criminal degeneracy who are not criminals. We have some very difficult questions to determine in these matters. I believe we should consider very carefully what safeguards we are to employ and what methods we are to use in the care of these unfortunates. I am strongly in favor of custodial care in many of these cases. We are gradually coming, throughout the country, to the view of permanent custodial care for a good many afflicted, but we must advance slowly, and we must understand thoroughly what we are doing. Stronger safeguards than have yet been proposed should, in many cases, be used.

Dr. Goddard: I do not think I have anything that is sufficiently well digested to present at this meeting on this subject. It certainly attacks a problem that needs to be attacked, and yet, it seems to me that our data for accurate logical thought are so exceedingly meagre that I feel a good deal as Dr. Bullard said, we must go exceedingly slow and must take very great care or we will be led into an action which will, perhaps, produce more harm than good. I do not agree with the statement, or can not fully recommend it, I might say, that there is the relationship between the physical and the moral and the physical and the mental, that was outlined. It is an argument that it is perfectly possible to make sound very well and very clear, and yet I believe we are absolutely devoid of data which will make it a conclusively logical statement. Would we to-day, if we could, eliminate from the world every defective person? I believe it would be a very hasty person who would say yes. These beings are not in

the world as the result of some aggressive blunder on the part of an overruling Providence or on the part of the great cosmic order of things. We cannot conceive of that. It is a kind of pessimism which out-teaches nature. There must be something more to it. There must be a purpose. There must be a great moral effect of all this which must ultimately be good. Now I do not know but that the moment I should be asked to explain further what I mean, I would be compelled to take my seat. I am only expressing, as I said in the beginning, in the absence of data, a feeling; it is not anything more than an expression of an individual feeling and it means nothing more.

Now, in particular cases and in a great many ways, I am thoroughly in sympathy with the idea of permanent custody for a whole lot of these people, as the writer of the paper is, but I do feel that it is a very large problem and that the first thing to do is to get data upon which to base our action.

Dr. Wilmarth: It is well to proceed slowly in this matter. But haven't we proceeded slowly? For fifteen years it has been dawdling on the public that these degenerates are largely children of degenerate parents. I do not say wholly, but largely. And, looking towards the progress that has been made towards crushing the evil, I do not see that much has been done so far. Surely we are progressing with exceeding slowness and exceeding caution and it strikes me that we have data enough at hand from histories compiled very carefully by men who have been long in the work, so that we may be justified in assuming that one great cause, at least, of degeneracy and its proportionate increase, is due simply to the natural cause of heredity. I can see no harm that is going to be done to the community or to the individual, I can see no injustice in taking radical steps towards asexualizing, not all of them, that would be impossible, but such as come under state guardianship. I do not think that in more than one or two states, at the most, is there any law that justifies the public in permanently assuming the guardianship of those that are known to be a menace to social purity and progress, and capable of producing great increase in social evils. I think all caution has been preserved. I think too much caution has been preserved and it is really time that some radical move were made in that direction. I am very heartily in sympathy with most of the writer's views that have been expressed here to-night.

Dr. Bruce: I was thinking of the need of more data about the children in the reformatory alleged to be undersized and underfed, and showing degeneracy in that respect. I can show about 300 well developed girls whose condition is commented upon favorably by visitors. They match up with any 300 in public schools—so there is something besides inheritance to be considered as we are sending them out. The environment has very much to do with the development although I believe in moral degeneracy.

Dr. Stephen Smith: In my opinion it is environment, education, nutrition, etc., with heredity, which give us what is called our degenerate class, the insane and the criminal. I have the greatest confidence in the possibility of improving the condition of these dependents of every class. It seems to me we are now working all together towards segregation as an end. We are segregating, in this state especially, the undesirable class, and probably to the fullest extent we possibly can, but when it comes to any radical work such as is proposed by the writer, it would be very difficult to make a proper distinction. My own belief is that we are working on the right lines, that we are putting a certain class into institutions and there we are trying to develop all of the best in them towards their own self support and care, and those that cannot go out in society are being kept, and probably will be kept, during their lives. I think in this state we are doing all that can be done from our knowledge of social conditions and the demands of society, about this class.

Dr. Murdoch: I wish to put myself on the side of Dr. Stephen Smith. I think we are taking too pessimistic a view to-night. I think the institutions are growing along rational lines. We are taking care of more and more of the defectives every year, and we have practically a permanent custodial care. I think we are all agreed that that is the way to meet the problem. There are those borderline cases, some cases we do not hold, but we hold all that our institutions can accommodate and as rapidly as institutions are built (and they are being built rapidly) we are filling them up and I think there are very few mistakes made.

Delegate: It seems to me that we forget the unity of the body and mind quite a good deal in our discussions and our study of this matter. There is no doubt in my mind but that the body, the physical

and the mental, are simply different expressions of one force; that when a human being comes into the world it is essentially physical; the mental is an afterthought, as it were. It is a development and that development, it seems to me, depends a good deal upon the physical. Take a child. While it inherits, we say, the mental and physical qualities, the first thing that begins to grow that we see, is the physical; the mental comes later, and that mental development depends upon the condition of that physical development. I have been studying this matter for a short time and yet I have found that every case of degeneracy has the same physical foundation for it. The time will come when we will begin the minute a child is born to put it in good physical condition so that we may have a foundation for a good mental development. Now the physical sometimes takes the form of a functional disturbance, a disturbance we cannot find under the microscope. We cannot find any difference, but still there is a difference. Is that difference acquired, or inherited, or what?

The other day a woman brought me a little fellow about nine or ten years old. He was mean, absolutely mean. I looked him over. He had a good throat, a good nose, good ears, good teeth, and seemed to be in good physical condition. I questioned and questioned him and finally got onto his habit of eating. I discovered that when the boy was about five years old his father taught him to drink coffee, and that boy was drinking two cups of coffee at every meal. If he did not get it there was a fuss. The mother objected, and the boy would cry and raise a row and the father would say, "You are always doing something to make him cry." That boy at eight or nine years old was getting six cups of coffee a day and we wondered why he was mean. I think we must look into this subject from every standpoint possible. That boy, I believe, was on the road to degeneracy as much as though he had inherited it. He was surely acquiring it because when a child is pestered by this thing or that thing or the other thing, which is like a needle sticking in his back, he cannot develop morally and mentally as he should. Take any person, any one of you, and put a tight shoe on his foot, and he will go fussing and fuming all day long and make everybody miserable. You cannot help it. That is the physical. Why should a little child who has not any mental control be expected to develop mentally and morally along a normal line when these little things are pestering the life out of him?

Dr. Carson: Very many children are born defective and one cannot build up the normal mental qualities from a defective beginning. I fear Dr. Smith did not take into account these particular cases and these are the cases we have to deal with very largely in institutions for the feeble-minded.

Dr. Murdoch: My idea is that getting degenerates into institutions and segregating them is the best way to head off this trouble at its source. We know from statistics something of the number of degenerates in the communities. We know, for instance, that in New York state you have something over eight or ten thousand mentally defective, feeble-minded, imbeciles and idiots and but a very small portion of them are in the institutions. You ought to have them all in institutions and take care of them and I believe we are working that way. I do not believe the time will ever come when there will be no feeble-minded, but I believe we can separate the sexes and prevent increase along that line. There will always be cases from other causes. I do not think we have any data which indicate that there are more feeble-minded to-day, in proportion to the population, than there were fifty years ago. It is surprising how statistics, taken throughout the world, will show about one in every 500 to be mentally defective. This ratio seems to continue about the same, year after year.

Dr. Rogers: Mr. Chairman, I am afraid I have nothing new to add. Segregation I am thoroughly in sympathy with and I think the teaching of the age is toward more careful differentiation. I have always felt that asexualization is wrong at least as to the frequently proposed application. The next movement, it seems to me, towards intelligent segregation would be the indeterminate sentence for the habitual, the chronic, the really criminal. A very large percentage, I am not prepared to say what percentage, but a very large percentage of defectives comes from the recognized criminal classes, and yet to-day—it may seem very revolutionary to make this statement—it seems to me that we are treating the criminal in the most irrational manner. The professional criminal looks forward to the time when his sentence will permit him to be returned to society. He is the good-conduct man of our prisons. His time becomes the minimum because of his good conduct. He has nothing in view but to return to society and repeat his crimes and we permit him to do that. Many people are criminals

by pure accident and many others—real criminals—are not under sentence. We all recognize these facts.

Now this differentiation would occur in the case of the criminal classes by the study of the criminal himself and his history. When the criminal is sent to the penitentiary the jury is not in a position, and the judge is not in a position, to go into his real history. They can determine the facts in regard to the particular crime as they do now. When he gets to the penitentiary the commission or the management of the institution may go into his history, and, if he is a criminal, he will remain under permanent custody until his supervisors are satisfied that his actual intention is, not to return to society to become a criminal or to continue the criminal life, but to be an honest, virtuous citizen. Acting on that principle hope is never entirely out of his reach. He can always look forward to a time when he may be free; but after he is free he will always have a string to him until that determination is thoroughly tested and if the registration were so carefully made under the Bertillon system that it would be impossible for him ever to escape if the authorities wished to return him, there would be very few instances, indeed, where he would escape; he has every reason to become a good citizen, if it is possible, and if it is not possible his fate would be perpetual isolation from society.

The field for surgical interference, if any, is with certain criminal types including possibly borderline defectives. I believe, so far as the defectives are concerned, however, we are working along about the right lines. We have also learned, through the experience of many years, that we may overdo in individual cases in the matter of segregation in regard to defectives. I think we often retain in public institutions people we should not retain; that is, we have in the past. I refer to individual cases that are perfectly capable of going out and becoming, not high-grade citizens, but fairly capable citizens, safe citizens. So far as a perpetual segregation is concerned, it is a pretty hard proposition to put up to any class of men or women to decide who shall be segregated except as they will study an individual, and in a great many cases, after a little study, a man reverses his first judgment. I think we must make progress very slowly and very carefully but I think we are going in the right direction.

Professor Johnstone: I feel, with Dr. Wilmarth, that we have

been pretty slow, but at the same time I believe we have been going along the right line. Permanent custodial care has been talked for thirty years or more and has gradually grown to be the belief, I think, of all who are directly engaged in the work, that it is the proper way to eventually take care of all the class who are degenerate. I think Dr. Roger's suggestion that we must look to the indeterminate sentence, or at least to something along that line for the great class of criminals who are partly bad and partly mentally deficient, is entirely true, and I think the movement on foot to make the indeterminate sentence and then a trial before dismissal,—the individuals are committed by trial and are dismissed by trial—is in the right direction and bids fair to work out well. In considering permanent custodial care and the possibility that a few individuals are, perhaps, having permanent custodial care who should not, I do not think we need worry much about it. Supposing we do have a few in our institutions who might be free? Isn't it absolutely true that, almost without exception, they would not be better off in the world than they actually are in the institution? They have more comfort and care. The only possible reason we can urge for their being set free is a sentimental one. While I think we have been slow on the one hand, and while I believe in permanent custodial care on the other, I think we must proceed a good deal more rapidly than we have in the gathering of data with an idea of prevention. We have been taking care too long. We have simply built, and then built, and then built, and it is a common saying, in building institutions in the various states, that just as soon as a new building is suggested there is a waiting list large enough to fill it and by the time it is completed there is a waiting list large enough to fill another. The question of cure and not prevention has been a serious thing in the past. I think it is time for us to make some pretty careful and pretty definite studies to gather together data a little more carefully than we have.

As to whether we should eliminate these children: If we could simply say, to-day, "These people shall all be put out of existence," I doubt if we would be willing to say it. That touches a pretty deep spot in our hearts. It is a serious question. It seems to me there is something beyond it. We do not dare call ourselves Christian men and women and say that this whole thing is a mistake, that the Lord

made a mistake when he let these children happen and we certainly cannot believe in the kind of a God who punishes the fathers and mothers by putting these children in the world. There must be some reason, some great law that we have not yet been able to understand, outside of the physical law. We know, of course, that a feeble-minded man and woman will have a feeble-minded child, but I feel sure there is in operation some great law we cannot understand. We can only guess, perhaps, that down in the soul of each child is an appreciation of the fact that he is leading towards some great work, opening up some great law in which the mere span of one human lifetime is not anything.

Dr. Bernstein: I hear you say that in the matter of custodial care we have gone too slow. I am many times impressed with the fact that in the matter of custodial care we have gone too fast. We have a big institution here and the individuals are lost in the mass. I believe our institutions have grown too rapidly and we have not studied cases enough. I think it is time we studied cases and time to stop building institutions, at least the large ones. In the matter of the criminal classes, of course we have had little experience here. I am a believer in moral degeneracy as stated by Dr. Bruce. I believe there is such a thing.

Dr. Carson: I think there is not any doubt but that statistics show to-day that the number of the insane is increasing very much and in all the states of the Union. I think there is not so much danger of the multiplication of degenerates from the class of people we have in this institution, but the people who are producing degenerates are the borderline cases in the world outside. There is where the trouble exists. People who are unfit to marry are marrying continually without hindrance, and they are bringing forth children—degenerates such as we have in this institution, in our reformatories and in our prisons.

Dr. Wilmarth: The figures in the special census report for 1900 showed that the insane in institutions were increasing, I think, about three times as rapidly as the normal population and don't you think the probabilities are that the feeble-minded are increasing in about the same proportion, or somewhere near the same proportion?

Professor Johnstone: The care of the insane in institutions is prolonging life. The average age is much higher than it was fifteen

years ago. In the hospitals for the insane there is an immense number of people who are over sixty years old who undoubtedly would not have lived to that age outside.

Dr. Fernald: I think Dr. Carson has struck a true note when he says that the class of patients in this institution are not the class of people who are the progenitors of degenerates. As a matter of fact I suppose that very few of your population are the children of actually feeble-minded parents. If every degenerate in the world, to-day, was destroyed, there would be in the next generation a liberal percentage of degenerates. I have in mind the story of the watch factory and its little pile of watches. There was a little pile of three thousand watches which represented a day's work in the factory, and I asked, "Are they all good watches?" The reply was, "No, there are three or four watches in that lot which can never be made to keep time; they have all the wheels and pinions and jewels; they are put together just like the others but they cannot be adjusted; they will not keep correct time." It will be many generations before it will be possible to prevent the marriage or to place in custody a great majority of the class of people who are the progenitors of our feeble-minded patients. The borderline cases—who of us wishes to permanently confine a man because he is merely a borderline case, because he is not quite up to our standard? Our taxpayers are already groaning under the burden of caring for the actual imbecile and the epileptic.



IN MEMORY OF MRS. CATHERINE BROWN.

A communication was received stating that Mrs. Catherine Brown, after a long illness, had passed away during October, 1907, and the following resolution was adopted:

RESOLVED, That in the death of Mrs. Catherine Brown this association and the profession it represents recognize the loss to them of an esteemed and honored member, who, while exemplifying in her life the highest ideals of home and motherhood, devoted herself with rare intelligence and fidelity to the care and interest of the feeble-minded; that her personal character and worth have been a benediction to all who enjoyed the privilege of her friendship and an inspiration to all who have known of her; that in building up and maintaining the school at Barre, the first and largest of its kind in America, and one of the best in the world, she shared in a large measure with her beloved husband, Dr. George Brown, the credit and honor due their joint labors.

Mrs. Brown belonged to that revered and brilliant galaxy of men and women who pioneered the work for the feeble-minded in America. For several years before her death she had not been privileged, through failing health, to attend this association, which was always dear to her, and so she was not so well known personally by the younger members.

The following sketch of her life is taken from the Barre (Mass) Gazette of November 1, 1907:

Catherine Wood, wife of the late George Brown, M. D., died at her residence on Broad street, Monday, after several years of invalidism. Mrs. Brown was a native of Mt. Vernon, N. H., daughter of Artemas and Susan (Barber) Wood and was born June 13, 1827. Her early life was spent in that state and later the family removed to Groton in this state, where she resided a few years and in 1850 she was married to George Brown, who had recently commenced the practice of medicine here; they first resided on Pleasant street and soon afterward Dr. Brown took the business of Dr. Wilbur who had previously established a small institution for the development and training of feeble-minded children. This branch of the profession

increasing, they moved to Broad street which for more than half a century has been her home and one which has grown from a small beginning to an extensive institution that is known throughout the civilized world. Mrs. Brown was a remarkable woman, possessed of great intelligence and an executive ability which but few women have ever equalled. She was a worthy helpmeet to her husband in the care of those unfortunate ones who were sent to their institution, and much of its success is due to her true perception of the conditions, and to the energy and power she brought to bear upon the management of those under their control. She possessed a fine presence, dignified and cordial at the same time, and in both friendly and business matters she conducted affairs in such a way that her lovable disposition and other talents were admired by all. In her position tact was at times required in conducting affairs, but with this tact truth, justice and righteousness always went hand in hand. She never sacrificed anything to expediency, always looking forward to what was just, and with her the right always prevailed. Untiring in all her ways, she found opportunity to step outside of the cares of the institution and take a prominent part in what made for the benefit of humanity and of the community. She was a well-wisher of all and her good works abound. She entered deeply into the spirit of woman suffrage and for some years before her health compelled her to retire she was a local leader and besides the solitary vote she was permitted to cast in the annual town meeting, she advocated more liberty elsewhere and desired more power in helping to decide questions affecting the morals and prosperity of the town. She was a lover of the beautiful both in nature and art and had surrounded her home with embellishments that indicated a refined and superior taste. As a recreation from her arduous work she took rest in travel having visited Europe, Mexico, Canada and various parts of the United States. For many years she had been a faithful member of the Congregational church and was always interested in its prosperity and welfare. She is survived by one son, Dr. George A. Brown, who is in charge of the institution, her late husband having died fifteen years ago. Funeral services were held at her late home Wednesday afternoon, Rev. C. H. Smith of the Congregational church officiating assisted by Rev. Mr. Bailey of the Unitarian church, who pronounced a fine eulogy of the deceased.

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ERRATUM—In Dr. J. C. Carson's article on The Mongolian Type, in the 1907-8 issue of the Journal, p. 46, 17th line from the top, this statement is printed: "In all of these families," etc. The correct reading is: "In eleven of these families," etc.

MINUTES OF THE ASSOCIATION.

The thirty-second annual session of the American Association for the Study of the Feeble-Minded met at the Rome Custodial Asylum, Rome, N. Y., at 8 o'clock, P. M., June 22, 1908..

Dr. Charles Bernstein, President, in the chair.

The members present (including those elected during this conference) were as follows: Dr. Charles Bernstein, Rome, N. Y.;

Dr. J. K. Kutnewsky, Redfield, S. D.; E. R. Johnstone, Vineland, N. J.; Dr. H. H. Goddard, Vineland, N. J.; Dr. H. G. Hardt, Lincoln, Ill.; Dr. J. M. Murdoch, Polk, Penn.; Dr. J. C. Carson, Syracuse, N. Y.; Dr. W. E. Fernald, Waverley, Mass.; Dr. W. N. Bullard, Boston, Mass.; Dr. A. W. Wilmarth, Chippewa Falls, Wis.; Dr. Joseph H. Ladd, Slocums, R. I.; Dr. Geo. L. Wallace, Wrentham, Mass.; Miss Mattie Gundry, Falls Church, Va.; Dr. E. J. Emerick, Columbus, O.; Dr. J. H. McKee, Philadelphia, Penn.; Dr. Maxwell C. Montgomery, Rome, N. Y., and Dr. A. C. Rogers, Faribault, Minn.

Visitors present during the various sessions, in addition to the staff of the Rome institution: Dr. Stephen Smith, New York City; Dr. W. T. Shanahan, Sonyea, N. Y.; Rev. Karl Schwarz, Syracuse, N. Y.; Mrs. J. M. Murdoch, Polk, Penn.; Miss M. L. Rorig, Polk, Penn.; Mrs. E. J. Emerick, Columbus, O.; Miss Jackson, Falls Church, Va.; Dr. Hortense V. Bruce, Hudson, N. Y.; Dr. Franklin Bock, Rochester, N. Y.; Miss Grace Böhme, Rochester, N. Y.; Dr. Robert W. Hill, Albany, N. Y.; Dr. Roemer, Utica, N. Y.; Dr. A. L. Smith, Utica, N. Y.; Dr. J. E. Haight, Utica, N. Y.; Prof. A. C. Clarke, Rochester, N. Y.

Letters and greetings were read from Mr. William Pryor Letchworth, Castile, N. Y.; Dr. Walter VanNuys, New Castle, Ind.; Dr. Velura E. Powell, Red Oak, Iowa; Dr. John P. Stewart, Farmdale, Ky.; Dr. William J. G. Dawson, Eldridge, Cal.; Dr. Frank E. Osborne, Beatrice, Neb.

The Chair announced as committees the following: On organization, Fernald, Johnstone and Kutnewsky; on time and place, Murdoch, Carson and Hardt. The following were elected to membership: Active, Dr. Frank E. Osborne, Beatrice, Neb.; Rev. J. W. Frankenfild, St. Charles, Mo.; Dr. A. L. Beier, Chippewa Falls, Wis.; Dr. Henry M. Weeks, Spring City, Penn.; Dr. Maxwell C. Montgomery, Rome, N. Y.; Dr. E. A. Farrington, Haddonfield, N. J.; Dr. J. H. McKee, Philadelphia, Penn. Associate, Dr. Bertha C. Downing, Lexington, Mass.; Dr. F. M. Bock, Rochester, N. Y.

The President expressed a desire that the association make the inspection of the Rome institution a substitute for an address and the remainder of the evening was devoted to informal report of states.

Drs. Fernald, Wallace, and Bullard reported for Massachusetts; Dr. Ladd for Rhode Island; Dr. Murdoch for Pennsylvania; Dr. Wilmarth for Wisconsin; Dr. Hardt for Illinois; Mr. Johnstone for New Jersey; Dr. Carson for New York, and Dr. Rogers for Minnesota.

June 23, the forenoon was spent in visitation of the different departments of the institution.

At 2: 45, P. M., the association was called to order and a paper read by Dr. Hardt on Accidents in Institutions for Feeble-minded (page 37. Discussion page 100). Dr. Carson read a paper on The Multiple System of Institution Control. Dr. Rogers explained the working of The Minnesota State Board of Control System. On motion, the Chair appointed a committee consisting of Drs. Hardt, Carson and Rogers to prepare a form of reports to be recommended for listing and reporting to the governing board all accidents occurring in state institutions for the feeble-minded. At the evening session Rev. Karl Schwarz, Syracuse, N. Y., read a paper on Nature's Corrective Principle in Social Evolution (page 74. Discussion, page 108).

On June 24th, at the morning session a paper was presented by Dr. J. H. McKee, Philadelphia, on Some Studies of the Mongolian Type of Mental Deficiency, illustrated by photos (P. 43). Dr. Bernstein presented "Mary," an individual representing the Japanese type of Mongolianism, together with a few other illustrative cases. Dr. Stephen Smith, New York City, read a paper on The Physiological Significance of the First Lesson (page 3. Discussion, page 97). Miss Elizabeth E. Farrell, New York City, read a paper entitled Special Classes in New York City Schools. A paper entitled, Impressions of European Institutions and Special Classes, was presented by Dr. Henry H. Goddard, Vineland, N. J. (P. 18). Miss Grace E. Böhme Rochester, N. Y., explained the work with the special classes in the Rochester public schools.

At the session held in the assembly hall at 3, P. M., the members of the Oneida County Medical Society were present. On motion of Dr. Rogers, seconded by Mr. Johnstone, the following resolution was unanimously adopted:

It having come to the knowledge of the members of this association that Mr. Alvin Pope is being considered for the management of the

Department of Education and Social Economy for the United States at the exhibition to be held at Tokio, Japan, in 1912,

RESOLVED: That, in consideration of the courteous and very efficient support given the institutions representing this association at the Louisiana Purchase Exposition at St. Louis and our unqualified confidence in him as a gentleman and an educator, we hereby heartily recommend Mr. Pope for the management of the Department of Education and Social Economy for the United States at Tokio, Japan, in 1912.

A Paper was then read on Moral Degeneracy by Dr. Hortense V. Bruce, Hudson, N. Y. This was followed by a paper by Dr. W. E. Fernald on Imbeciles of Criminal Instincts, illustrated by portraits. Dr. W. F. Tremaine, Rome, N. Y., read a paper on Dental Irregularities Associated with Mental Deficiency, illustrated by plaster casts. This was followed by a paper by Dr. W. T. Shanahan, Sonyea, N. Y., on Epileptic Dementia Contrasted with Idiocy and Imbecility. Dr. W. N. Bullard, Boston, gave a paper on High-grade Mental Defectives. Dr. Smith Baker, Utica, N. Y., in a paper discussed The Problem of the Feeble-Minded from the Standpoint of the General Practitioner. After the reading of Dr. Bullard's paper a general discussion was developed on all the preceding papers connected with border-land cases. At 8, P. M., the school department of the Rome institution gave an operetta, *The Merry Company*. This was very prettily presented under the management of Miss Douglas and the teaching corps.

On the morning of June 25th, the members of the association visited and inspected the farm of the Rome institution. At 10, A. M., the members took the New York Central train to Syracuse where they were met by Dr. Carson and driven to the Syracuse State Institution for Feeble-Minded. After luncheon served by Mrs. Carson, the members visited and inspected the schools and were given an exhibition of class work in the gymnasium. At 4, P. M., a session was held at Dr. Carson's cottage, Dr. Bernstein in the chair. Dr. W. E. Fernald, of the committee on organization, reported: For President, Dr. W. N. Bullard, Boston, Mass.; Vice President, Miss Mattie Gundry, Falls Church, Va.; Secretary and Treasurer, Dr. A. C. Rogers, Faribault, Minn.; editorial staff for the *Journal of Psycho-Asthenics*, A. C. Rogers, M. D., Editor, Faribault, Minn.; associates, W. E. Fernald,

M. D., Waverley, Mass.; M. W. Barr, M. D., Elwyn, Pa.; George Mogridge, M. D., Glenwood, Ia.; A. R. T. Wylie, M. D., Faribault, Minn.; H. H. Goddard, M. D., Vineland, N. J.; W. N. Bullard, M. D., Boston, Mass., and Professor W. K. Weissbrodt, Milwaukee, Wis. Dr. Murdoch of the committee on time and place reported in favor of Chippewa Falls, Wis., the time to be determined by the President and Dr. Wilmarth. The Treasurer reported that the claim of the association against the state of Indiana for \$50.00 on account of St. Louis exposition could not be collected as the state commissioner had closed the books and no funds were available. On motion, the Secretary and Treasurer was authorized to purchase a desk and filing cases as required for the editor's office. On motion, the Secretary was instructed to communicate with Dr. and Mrs. Bernstein expressing the appreciation of the members for the hospitality and courtesy extended.

Adjourned.

TREASURER'S REPORT, 1908—1909

Cash Dr.

Balance on hand, June, 1907	\$283.17
To cash dues, 1904.....	7.00
“ “ “ 1905	7.00
“ “ “ 1906.....	86.00
“ “ “ 1907.....	102.00
“ Sale of Journals,.....	57.64
“ “ “ Decennial volumes,.....	4.50
	<u>\$547.31</u>

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